

# RETRO FUSION



## Rock Games, Rock Animal

Gaming + Rock band = Potential disaster

## Game Boy Light

The collector's piece of Nintendo's Game Boys

## Snap, Crackle & Pop

Another retro advert under the spotlight

## Missile Command

Archer Maclean restores the classic cab

## Tonka Tough

The indestructible yellow truck

# FOOTBALL

THE BEAUTIFUL GAME IN MINIATURE

## Subbuteo

A history of the greatest tabletop football

## Sensible Soccer

Head honcho Jon Hare tells us all

## Football Games Knockout

We compare the best footy games



### Rubik's Cube

We find out about the '80s puzzle craze that swept the nation.



### Knight Rider

A look back at the Hoff's adventures with a camp car called KITT.



### The Games Industry

Andrew Oliver tells us how the business has evolved.



E3

NEW!

Packed full of nostalgia from start to finish - Get those warm, fuzzy feelings right here!

ISSUE TWO | JUL/AUG 06



GP2X Specifications: 2 x 200mhz ARM Processors, 64mb SDRAM, SD card, powered by Linux, 3.5" TFT Screen, Runs on 2xAA batteries.

Hello. So, the GP2X, you probably want to know what it can do...

It can play games. It can play your Movies. It can play your music. It can view photos. It can read Ebooks.  
It runs on just 2 AA batteries - And it can do all this in the palm of your hand or on your TV screen.

Yes that's right, this handheld can connect to the TV, console style. Watch your DivX movies on the TV.  
Play emulated classics on the TV. Try big screen Quake.

Or just play them all on the GP2X's large 320\*240 backlit screen. You get the best of both worlds.

It runs the free Linux operating system. This means a whole world of Games, Utilities and Emulators are at your disposal.

It's powerful - Two 200mhz CPU's with 64meg of RAM, custom graphics hardware and decoding chips.  
Takes SD cards and has 64M of NAND memory.

That means it can play movies without any re-encoding. Just put them onto an SD card.  
Any size. Any resolution. No messing about. The GP2X scaling chip will resize to fit the screen.  
No other handheld can do that.

It's open. You want to develop your own games for the GP2X? Go right ahead. The SDK is included with the system free.  
Not since the days of the Amiga has a system been so easy to develop for, commercially and for fun.

The GP2X isn't just another wannabe Gameboy. It's a whole different design.  
A whole new idea for a handheld games system.

Available now at [www.GP2X.co.uk](http://www.GP2X.co.uk)



coming to the GP2X



Custom GUI



GPL Quake Engine



MPlayer Preloaded



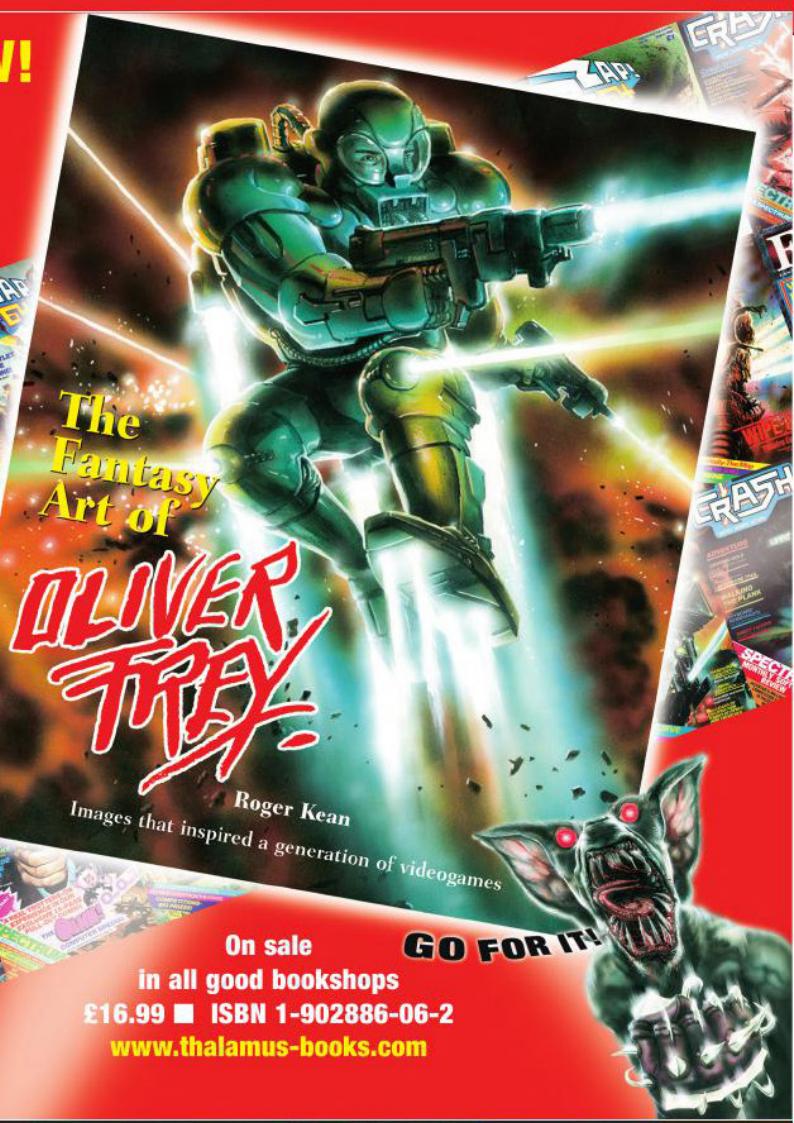
Classic Ports & Emulators

# THIS AIN'T RETRO – IT'S NOW!

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# RETRO FUSION

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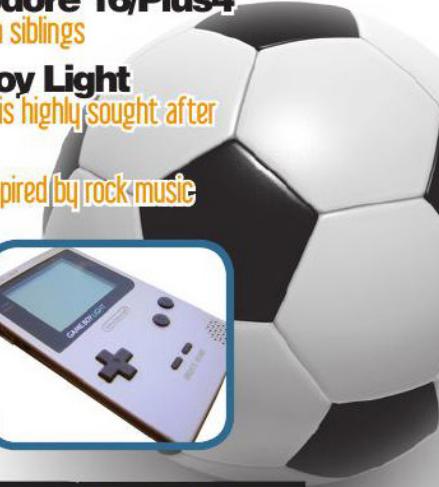
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*fu·sion* (fyū'zhən) n.

1. The merging of different elements into a union: the fusion of copper and zinc to form brass; the difficult fusion of conflicting political factions.

2. A union resulting from fusing: A fusion of

religion and politics emerged.

3. Physics. A nuclear reaction in which nuclei combine to form more massive nuclei with the simultaneous release of energy.

# “ret·ro” (rĕt’rō) adj.

Retro, short for retrospective, is a modern term used to describe things from a bygone era. It is often used in a positive sense, referring to quirky or attractive products that are no longer available. For example, “Retro fashion” or “Retro Chic” may consist of outdated styles, such as tie-dyed shirts from the 1970s, or poodle skirts from the 1950s. A love of retro objects (things from the past) is called retrophilia. (Source: Wikipedia)

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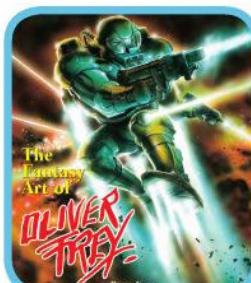
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Everyone's favourite noisy cereal



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### Advertisers

To advertise in the magazine  
please contact us by email at  
advertising@retrofusion.co.uk

### Submissions

If you want to submit an article  
to Retro Fusion, please contact Chris  
(email : chris@retrofusion.co.uk).



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fusion

1. The merging of different cultures and factions into a union: the difficult conflict between political parties.

2. A union resulting from a fusion of religion and politics.

3. Physics: A nuclear reaction in which nuclei combine to form more massive nuclei with the simultaneous release of energy.

# RETRO FUSION

## RETRO FUSION

# A WEEKEND OF GAMING

The Retro Ball event returns with a new name, a fresh lick of paint and promises of a retro-fuelled gaming weekend of fun!

The Retro Ball event last year was pretty successful, providing a truly awesome weekend of gaming for all those who attended and raised nearly £800 for the Everyman charity. Such was the popularity of the weekend that a sequel was inevitable.

This year the event will be known as "Retro Fusion: A Weekend of Gaming" (See what we did with the branding there!) and will take place at the same venue, The Wardens Cricket Club in Kenilworth, Warwickshire.

XPLOSIV, responsible for the classic Taito Legends and Taito Legends 2 compilations, are sponsors of this years event and will be introducing Taito Legends for the PSP to the attendees.

The Jamma+ (www.jamma-plus.com) boys will be back with an even larger selection of their arcade cabinets. Last years exhibit was extremely popular and showcased the likes of Radiant Silvergun, Time Crisis and Star Wars. We have been promised 25+ cabinets for this years gaming shenanigans and can look forward to some timeless classics on display.

Retro Passion (www.retropassion.co.uk) and Console Passion (www.consolepassion.co.uk) will be a supplying huge selection of gaming systems for you to play

your favourite games on as well as trading some of their wares. Be sure to bring some extra cash with you as bargains will be a plenty over the weekend from these guys.

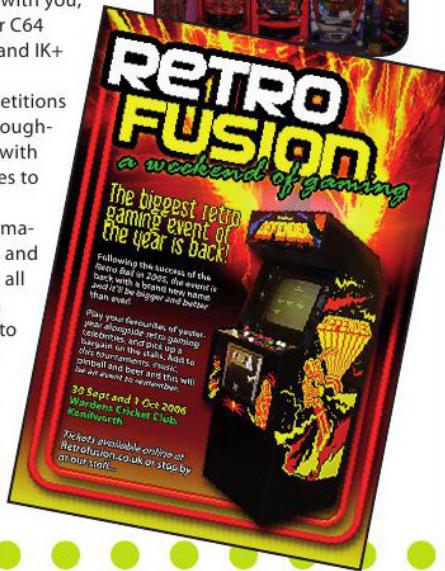
Pinballers Anonymous (www.pinballersanonymous.co.uk) will be returning with a good selection of pinball tables.

Confirmed celebrity hopefuls so far include Jon Hare, Archer Maclean and The Oliver Brothers as well as Oli and Franco Frey, Mathew Uffindell and Roger Kean so make sure you bring your autograph books with you, or better still, your C64 copies of Wizball and IK+ for them to sign.

Gaming competitions will take place throughout the weekend with some superb prizes to be won.

For more information on the event, and to purchase them all important tickets, please head over to [www.retrofusion.co.uk/event.htm](http://www.retrofusion.co.uk/event.htm)

A DVD of last years event can still be purchased from [retrotrader.com](http://retrotrader.com)



## Potatoes In Space

Mr. Potato Head uses the force and joins the dark crispy side



Now, I'm not really sure what I'm reporting on here; toys, movies or merchandise. Rest assured, whichever it is, it's retro.

Although the Star Wars franchise is well known for its merchandising, it's perhaps a little less renowned for having a sense of humour when it comes to handing out licenses. Well, all that changed when

Hasbro managed to land themselves the rights to take their age old children's favourite, Mr Potato Head and send him to an allotment far, far away.

A revamped range of the classic children's toy (first introduced in the 50s) began with Darth Tater, to coincide

with the third episode in the film series. With the usual Potato Head accessories (teeth, nose, eyes and ears) the 'tater tie-in is also decked out with such Dark Side decorations as a cape, lightsaber and goggle eyed helmet.

But what root (vegetable) of all evil is complete without his minions? The Spudtrooper was the second Star Wars spud to appear, complete with shiny white helmet and laser masher. To bring balance to the Forks (ouch!) the culinary clone has been followed up by the Rebel's most admired mascot, Artoo Potatoo is now available, carrying a Princess Tater hologram he must deliver to Luke Skywalker.

Whatever you're a fan of – Star Wars, Mr Potato Head, executive toys, collectables – no bachelor pad is complete without some form of sci-fi spud standing guard over your keyboard!

# COMPETITION COLUMN

## Name My Little Pony

► Enter the Pony Hall of Fame



Every girl remembers the name of their favourite My Little Pony; their unforgettable names are forever imprinted on the memories of the children who grew up with them.

Now for the first time ever, makers Hasbro are asking children to write in with ideas for the name of a brand new pony. They are searching the nation for a name that captures the magic and fun of My Little Pony. The winning name will then be given to a newly designed pony and it will be available to buy across the world from August 2007 – instantly becoming part of My Little Pony history!

If you or your children can think of a name that captures the spirit of My Little Pony, then all you need to do is write to them about your idea for a name and why you think it would be great for a new My Little Pony. A word to you lads out there; we somehow doubt they will be taking entries such as Death Lord, or Scaramanger.

Send your entry, along with your name, age and address to New My Little Pony, PO Box 42, South East Delivery Office, Manchester, M12 6AY.

## Signed Oli Frey Book

► Courtesy of Thalamus Publishing

To tie in with our review of *The Fantasy Art of Oliver Frey*, Thalamus Publishing have provided us with a signed copy of the book, a must have for anyone that has fond memories of Crash, Zzap or Amtrix back in the '80s.

To stand a chance of winning the book, all you have to do is tell us which magazine featured the image below. Send your answer to competition@retrofusion.co.uk. Rules and competition detail are available on the website - [www.retrofusion.co.uk](http://www.retrofusion.co.uk)



## PSP Goes Retro

PSone games come home to the PSP to be greeted by SNK's Metal Slug franchise

For all the good that the PSP has brought to us fans of retro, particularly with its huge bustling emulation scene, news that we'll finally be able to download our favourite PS1 titles to our memory sticks is found most welcome indeed.

Via the e-Distribution system, PSP owners will be able to directly download a hefty number of those PS1 classics onto their memory sticks and relive Sony's glorious past all over again.

With only Ridge Racer shown at E3 in any kind of playable form, a list of initial titles has yet to be released. It's safe to say that surely the likes of the Final Fantasy series, the Silent Hill games, and Metal Gear Solid will make much craved appearances.

However, with prices yet to be announced, and just how we'll all afford the multitude of memory sticks required to house all these classic titles, we'll refrain from offering up too much praise thus far. Unless the Suikoden games make an appearance.

In further PSP news, Metal Slug is set to make the jump in earnest to our PSPs in the guise of the Metal Slug Collection - in recognition of the series' tenth anniversary - and is sure to please all of its fans.

Crammed onto a tiny UMD are Metal Slugs 1, 2, 3, 4, 5, and X. All apparently to be given 'almost perfect translations' or so SNK



Play-more are promising us. Also included will be wireless multiplayer support, so you and another PSP owning chum can attempt to work your way through this difficult series as comrades.

With release date currently set for Autumn in the US, we can only hope that a PAL iteration makes its way into our local gaming emporiums by Christmas. Those bus trips to work might never be the same again...

## The UK Pinball Show

The pinball show returns to the conference centre in Aston, Birmingham for another weekend of tilting

After the success of last year's button bashing, flipper pounding, bumper bouncing UK Pinball Show, Pinballers Anonymous and Pinball Heaven have got together and set the venue for a 2006 return at Villa Park in Birmingham (the home of Aston Villa).

Once again sponsored by Nokia N-Gage, the show promises the eager return of all last year's exhibitors, delivering a stampeding herd of over 140 wild pinball machines – on free play – for all your high scoring delights. Accompanying the bearing bouncers will be a host of arcade machines, jukeboxes, pool tables, memorabilia, games room equipment and stalls selling machine parts, collectables, music and a plethora of other retro goodies.

The show has selected the In Kind Direct as its benefiting charity this year, which is a non-profit organisation founded by the Prince of Wales Trust to distribute surplus goods from manufacturers and retailers to hundreds of

volunteer groups both at home and abroad. Information about In Kind Direct can be found on their website, [www.inkinddirect.org](http://www.inkinddirect.org).

Although last year's show was held in November, this year a summer date of 22nd and 23rd July has been chosen to help not only with the already high attendance, but also as a boost during a traditionally quieter period for the supporting traders who all reported an encouraging surge in sales after the previous exhibition.

Adult day tickets will be £7.50, family day tickets are £20 and a money saving weekend pass will run up a measly £10. Opening from 10am to 6pm on Saturday and 10am while 4pm on Sunday, this year's show promises to be bigger, better, louder and prouder!

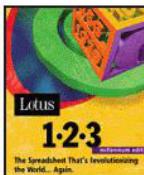
More information for visitors and potential exhibitors, as well as booking tickets, can be found at [www.pinball.net](http://www.pinball.net), or by calling 0870 PINBALL.



# 1983 DO YOU REMEMBER...

## News

▼ Lotus 1-2-3  
Lotus launch their popular spreadsheet application, leading Microsoft to the market by several months.



▲ Clunk Click Every Trip  
Wearing your seatbelt was made mandatory this year.

► Swatch  
The Swatch company launch their range of popular fashion watches.

**swatch**

A Guide for Connoisseurs and Collectors

Frank Edwards



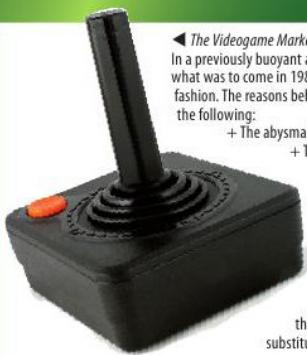
▼ The PC is born  
IBM launch the IBM Personal Computer XT in March with a whopping 128k of memory and superfast 4.77 MHz Intel 8088 processor.



▲ Reagan announces SDI, AKA Star Wars  
"I call upon the scientific community who gave us nuclear weapons to turn their great talents to the cause of mankind and world peace: to give us the means of rendering these nuclear weapons impotent and obsolete". Big lasers, in space...

► Hitler Diaries  
German magazine Stern paid 10 million marks for 60 small books purported to be Hitler's diaries between 1932 and 1945. They published extracts of the diaries in the magazine, however, it was later found that the diaries were the work of forger Konrad Kujau, who was later jailed for 42 months for his part in the hoax.

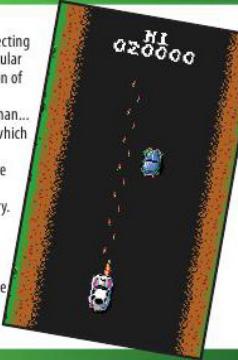
## Gaming



◀ The Videogame Market Collapses  
In a previously buoyant and rapidly expanding market Atari were not expecting what was to come in 1983... The videogame market collapsed in a spectacular fashion. The reasons behind the crash are often put down to a combination of the following:

- + The abysmal titles flooding the market, including ET and Pacman...
- + The aggressive marketing of the home computer which were now cheaper...
- + Retailers ceasing to supply units as they were perceived as a passing fad...

Tough times were ahead for all in the industry.  
► Spyhunter  
In a large sit-down cab you controlled the Nissan 240Z as it hunted down enemy vehicles and choppers. Originally planned to use the James Bond theme, legal issues meant it was substituted for the Peter Gunn theme.

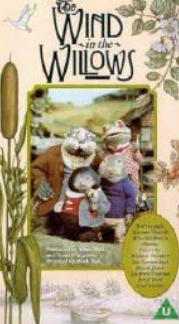


◀ Elevator Action  
You are Agent 1, codename 'Otto' and your mission, should you choose to accept it, is to secure all the top secret documents from a 30-floor secret building filled with elevators and escape in a getaway car waiting in the garage at the very bottom of the building. Sound simple? It is – but highly addictive and can be now found on the Taito Legends 2 compilation from XPLORIV.

## Kids



▲ Tucker's Luck  
Todd Carty gets everywhere now, but in 1983 he was firmly in the hearts of schoolgirls everywhere, appearing in this Grange Hill spinoff.



◀ Wind in the Willows | Kenneth Graham's 1908 classic was turned into an animated classic by Cosgrove Hall.

▼ Little House on the Prairie | Came to an end in 1983 after 9 years.



◀ SuperTed  
"This is a story about an ordinary teddy bear. When he was made they found something wrong with him and threw him away, like a piece of rubbish, into an old dark store room. Then from outer space a spotty man brought him to life with his cosmic dust. He took him to a magic cloud where Mother Nature gave him special powers. That bear became... SuperTed."

The cartoon was created in 1982 in the Welsh language. It was later dubbed into English and hit our screens in 1983.



◀ Willo The Wisp  
Voiced by the distinct tones of Kenneth Williams, Willo narrated the adventures of Arthur the caterpillar, Mavis the fairy and Evil Edna, a witch in the form of a TV. A new series was aired last year.



► Terrahawks  
Zelda threatens Earth in the year 2020 and only the Terrahawks can stop her. During the end credits, the good spherical robots play noughts and crosses against each other, resulting in a different winner each week.

## Sounds

► A-HA  
Popular with the ladies, the band formed in Norway in 1983.



◀ Do You Really Want to Hurt Me?  
Boy George and his unique look (for the '80s) had a hit with this one.

► Kill 'Em All  
Metallica's first album was released this year.



► The Thompson Twins  
Their name came from the detective duo made famous by Herge's Tin Tin books.



► Frankie Says Relax  
One of the most controversial records of the decade, Frankie Goes To Hollywood's Relax is the 7th best selling UK single of all time. The single was banned by the BBC for its somewhat dodgy lyrics, which probably helped to increase the sales.

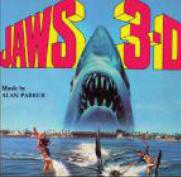


## TV & Film



▲ Terms of Endearment  
Winner of five Oscars (and nominated for a further six) the film charts the relationship between mother (Shirley MacLaine) and daughter (Debra Winger). A supporting role netted Jack Nicholson one of his three Oscars.

► Say hello to my little friend | Brian De Palma's ultraviolent Scarface went on general release, containing 218 uses of the word "f---". I have had a fear of showers ever since.



◀ Daaaaa Dah, Daaaaa Dah  
When a young shark dies at Sea World, its 35ft mother goes on the rampage. All in glorious 3D, this gimmick wasn't enough to save the dire film, which was nominated for five Razzies (the antithesis of the Oscars)...



◀ Return of the Jedi  
The third part of the original trilogy, and now Episode Six, was released this year much to the delight of Star Wars fans everywhere. It was never as highly regarded as the second instalment – possibly because the thought of the Empire being defeated by a bunch of furry little teddy bears was a little hard to swallow – but it was an enjoyable sci-fi adventure, made all the better for the infamous gold bikini...

► The A-Team  
"I ain't getting on no plane, you crazy foo!" Started to air in 1983...



◀ CHiPs  
AKA California Highway Patrol – ended this year after six years.

# Each month Retro Fusion takes a look back at a year that formed our youth. Our first excursion takes us back to 1983 for the collapse of the games industry and the launch of McNuggets...



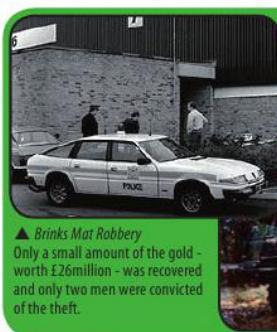
◀ **Wheel Clamps**  
In May, London police started using wheel clamps to combat parking violations.

▶ **Success in Europe**  
Aberdeen win the European Cup Winners Cup.



◀ **M\*A\*S\*H**  
125 million Americans tune in for the last episode of MASH.

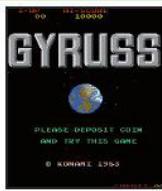
▶ **Atishoooo**  
Donna Griffiths from Pershore stops sneezing after sneezing continuously for 978 days.



▼ **Grenham Common**  
No wombats, but cruise missiles, arriving at the airbase against opposition from peace campaigners.



▲ **Land Speed Record**  
Stick a jet engine on some wheels and find a man mad enough to drive it... Richard Noble reaches 633.468mph in Thrust 2.



▼ **Tapper**  
The original Pub-em-up, and an arcade machine with beer holders. Great!



◀ **Track and Field**  
Before the home computer joystick wagglers, there was this. Two buttons had to be hit alternately to urge your pixelated athlete along the track. Expert players could stroke three fingers of each hand across the buttons with such timing that they could simulate the high speed button bashing. The rest of us just had sore wrists.

▶ **Dragon's Lair**  
The first laser disc based game, this was billed as an interactive cartoon. Dirk, the daring hero had to negotiate various traps to get the girl. However, this boils down to remembering which way you need to press the joystick at each hazard. Get it right and you go on to the next obstacle; wrong and you'll get to see yet another death animation. It's a beautiful game, with the cartoon created by Don Bluth, but the gameplay will want to make you want to put your fist through the screen.

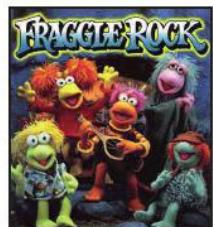


◀ **Bananaman**  
Originally appearing in the Nutty comic in 1980, our legume-obsessive antics were brought to the small screen by the BBC. With voices from The Goodies, it ran for 40 five minute episodes over 4 years



▲ **My Little Pony**  
Every little girl wanted a pony and Hasbro were able to make that dream come true in the form of the My Little Pony collection. They would spend hours preening and brushing the ponies' manes and tails. Until their older brothers tested the fire retardance with a box of matches...

◀ **Cabbage Patch Kids**  
The must-have toy for 1983 were these ugly little dolls known as the Cabbage Patch Kids. Parents were fighting in the aisles to secure their pampered offspring one of the little blighters. For those too sickened by the smiling progeny of Coleco there were the trading card parodies, The Garbage Pail Kids.



▼ **The Introduction of McNuggets** | Back in the early eighties, when the friendly clown was regarded as a purveyor of fun family food, the McDonald's range was expanded to include the infamous McNugget. We all knew what was in them before Jamie Oliver waged his war, but they still tasted damn good and we didn't care.



▲ **Bad Hair Year**  
Kajagoogoo, Paul Young and the Bowie. It wasn't a good year for hair styling...



▲ **Gold, Spandau Ballet**  
Now that's what I call style, vol. 1  
► **Wham!**  
Do you ever look at these old shots and think, "it all makes sense now?"

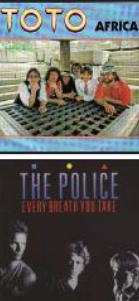


▼ **Naananan-anananan**  
Love Cats, by The Cure. Brilliant...

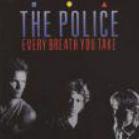


◀ **The many faces of Michael Jackson**  
1983 was a busy year for M.J. - with two number ones (Billy Jean and Beat It) and the most expensive music video at the time (\$800,000) in the form of Thriller. Oddly, Thriller only reached #10 in the UK charts... "Mu-hahahaha"

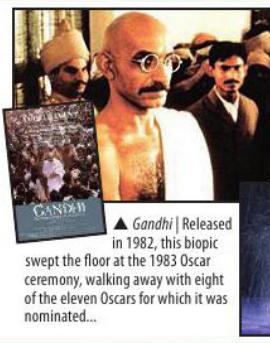
► **1999**  
"Tonight we're going to party like it's 1999" - and not in the sense of waiting for all the computers to die and plunge us into the dark ages again.



◀ **Africa - Toto**  
"I bless the rains, down in Aaaafricaaa" Apparently a frequently mis-heard lyric. Now you know...

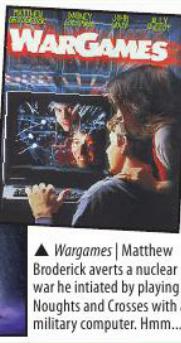


► **Every Breath...**  
This song won two Grammies at the 1984 awards.



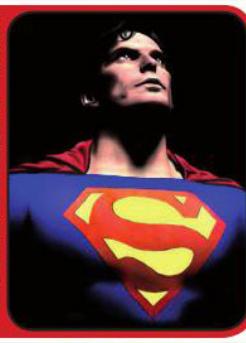
▲ **Gandhi** | Released in 1982, this biopic swept the floor at the 1983 Oscar ceremony, walking away with eight of the eleven Oscars for which it was nominated...

▼ **Flashdance** | Part welder, part exotic dancer, Alex Owens has ambitions to become a 'real' dancer... Irene Cara's "What a Feeling" earn this film an Oscar for best original song at the 1984 awards...



▲ **Wargames** | Matthew Broderick averts a nuclear war he initiated by playing Noughts and Crosses with a military computer. Hmm...

► **Superman 3**  
Richard Pryor synthesises some Kryptonite which gives Superman an evil turn and a bad case of stubble. The Man of Steel splits into his good and bad personas and eventually does battle with himself. Once his good side prevails, he heads off to do battle with Pryor's newly built super computer.



▲ **V** | The Earth is visited by aliens, but their friendly human appearance is merely a mask for these reptilian creatures with less than peaceful intentions.



▼ **Never Say Never Again**  
Sean Connery took up his old role of James Bond (having said "never again" after Diamonds Are Forever, and purportedly the source of the film's name) in this remake of Thunderball. The film is not part of the official EON Productions/United Artists franchise and as a result, it doesn't follow the same Bond universe.



Cara (6) – Every Breath You Take: The Police (8) – Sweet Dreams are Made of This, Eurythmics (1 week) – Maniac, Michael Sembello (2) – Tell Her About It, Billy Joel (1) – Total Eclipse of the Heart, Bonnie Tyler (4) – Islands in the Stream, Kenny Rodgers and Dolly Parton (2) – All Night Long, Lionel Richie (4) – Say Say Say, Paul McCartney and Michael Jackson (4)

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# GREMLIN SOLUTIONS

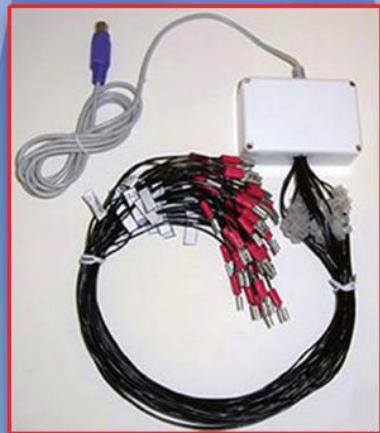
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The GS Arcade Box® is the perfect solution for anyone who wants to build their own PC arcade cabinet. It acts as an interface between your PC and arcade joysticks/buttons. It was specifically designed to be used with Mame™ (Multiple Arcade Machine Emulator) although it will work with any PC game and even other emulators.

The kit is perfect for newbie arcade cabinet builders – save on endless hours of crimping/stripping wires and spend the time doing something more useful, like playing games!!! The device comes neatly packaged as a complete unit – just mount it inside your cabinet and connect the labelled wires to the corresponding joysticks/buttons – plug in the PS2 lead into the keyboard port of your PC and start playing your favourite games – very easy.

## INTRODUCING THE "VOYAGER" ARCADE COCKTAIL CABINET



The VOYAGER is the next generation of PC based, new build arcade machines, with its classic retro design being reminiscent of the original tables.

These machines have the same retro style design as the ones you remember but instead of just one game, they have the ability to play up to 36 of the most popular games from the 80's.

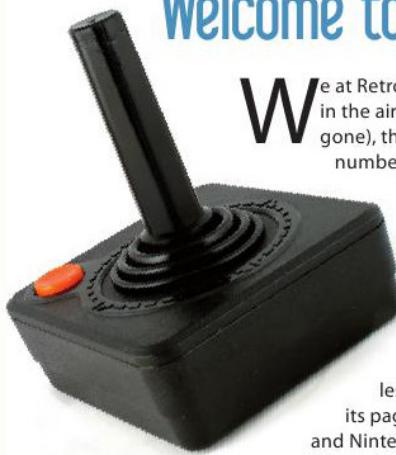


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## Welcome to the Gaming Section



We at Retro Fusion love games and with World Cup fever in the air once again (my how quick the last 4-years have gone), this issue celebrates the beautiful game with a number of football gaming features to mark the occasion.

Accompanying the football bonanza is an article by industry veteran Andrew Oliver who takes a time-out from his busy schedule to look back at how games development has changed from the 'Dizzy' development days on the Spectrum to the large-scale projects of today on the XBOX 360 and PS3.

Retro Fusion's goal is explore some of the lesser known computer and console systems within its pages and this issue it's the turn of Commodore's C16 and Nintendo's Gameboy Light.

Martyn Carroll finishes off the section with a look at games that have featured rock bands and pop stars. Did pop and gaming culture combined succeed? Turn to page 36 to find out.

## Retro Remakes 2006 Competition

[www.retromakes.com/comp2006](http://www.retromakes.com/comp2006)

**The Retro Remakes Competition is back with a twist. The popular competition, where entrants update their favourite retro games, has returned with an emphasis on accessibility in gaming.**

After the immense task of running the 2004 remakes competition, the judges said 'never again'. It now appears that they've had a change of heart and the 2006 competition commenced on 1st June.

Andrew Pointon, aka 'The Caffeine Kid' has done a sterling job in rustling up a prize list to be proud of. The prize fund has grown upwards of four thousand pounds with a top prize consisting of goodies worth £1,159!

### Promoting Accessibility

Following on from a mini competition in 2005 where all the games had to be controlled with one button (in association with [www.oneswitch.org.uk](http://www.oneswitch.org.uk)), the 2006 competition continues to support access to gaming for the disabled. Twenty percent of the marks awarded

will be attributable to accessibility features, with the

aim of making games that can be played and enjoyed by all gamers, regardless of their ability. Features such as subtitles, audio/visual prompts and varying difficulty levels help towards this goal.

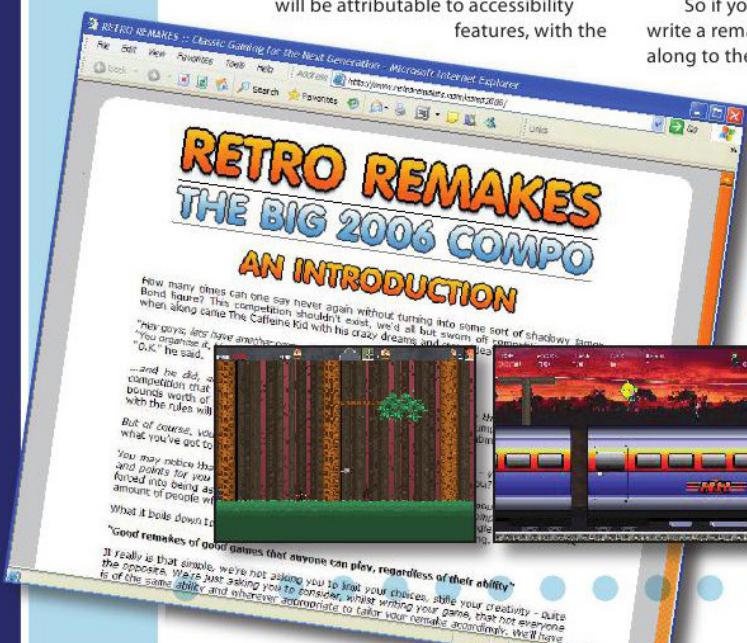
The competition usually produces a number of immensely playable games (as well as a number of downright abysmal efforts) and full details of the results will be featured in a future issue. If you haven't tried them already, we recommend visiting the 2004 competition page and downloading some of the entries.

There are a number of rules that state explicitly what can and can't be done which you should read carefully if you consider entering the competition. Entries can be written in any language as long as they run on the judges' PCs. As a word of warning, don't ask the judges about the rules regarding the obligatory sponsor splash screen; the volume of inane questions they had about it last time was a particular bugbear and you are likely to lose a limb if you even mention it.

So if you have a burning desire to write a remake of a classic game, pop along to the [retromakes.com](http://www.retromakes.com) website and catch up on the fun.

The competition ends on 31st August 2006 so you still have plenty of time to put an entry together.

▼ The 2004 top three entries...  
Legend of Shadow, Stop the Express and Trashman



# GUNSTAR HEROES

Words courtesy of Richard Worrall of Britixbox.co.uk



Ever since its release, fans clamoured for a new iteration, but it wasn't until the original team could be assembled that Treasure was willing to give in.

**Twelve years, we waited. It was twelve long years between Treasure's debut title and perhaps the most requested sequel ever. Gunstar Super Heroes was the eventual return for our patience, yet while the developer's most enduring IP was done no harm by the GBA iteration, it couldn't help but feel like an opportunity missed.**

Considered by many as the apex of 2D platform shooters, Gunstar Heroes remains the embodiment of Treasure's manifesto - a steadfast commitment to creating fresh 2D gameplay, and exploiting hardware to its limits. Melding the stylised futurism of Contra (a title that key Treasure staff had worked on at Konami) with the vibrant character of a Nintendo franchise, the game has its own unique aesthetic. Deeper still, its distinctive take on established gameplay models rejuvenates what should feel cliché... mine-cart levels included.

What makes it so good? Like the genre's best, graceful destruction is its fundamental success. The weapon set has a base of four types, and each of these can be combined with another to create hybrid weaponry. Movement has a similar balance of simplicity and versatility, with ledge grabs, slides and wall-kicks thrown in to make the environment integral to your progress.

The balletic poise of Strider is engendered here, but two-fold; multiplayer features include being able to throw your team-mate into enemies for powerful close combat attacks. Creative play is encouraged - catch a bomb and throw

it back; hurl an enemy into the air; do these things in unison and feel ever so smug at the grace with which you both kick ass.

Above all, Gunstar Heroes earned the developer a reputation for creating exceptional boss battles. Each of the freely selectable levels is punctuated with numerous boss encounters, each one conceptually novel (even bizarre) and demanding of an individual tactical approach. The roundhouse-kicking Bravoo Man, made of crates, makes a peculiar adversary atop an ancient pyramid. The perplexingly monikered Curry and Rice simply comprises a floating face, eyes rolling wildly as his disembodied maw lurches toward you.

It's not every day you play a game like that. Ever since its release, fans clamoured for a new iteration, but it wasn't until the original team could be assembled that Treasure was willing to give in. Was it too long? Between 1993 and 2005, everything changed in the videogame industry. Critically, the PlayStation era brought with it a shift from 2D gaming paradigms, for better or worse, to a reliance on 3D graphics.

Like the Gunstar Heroes themselves, Treasure stuck to their guns. Company president, Masato Maegawa, asserts their position: "basically we wanted to create games with 2D. That's our base concept. We create for both handhelds and home consoles. For handhelds, maybe 2D is the best." Inevitably, Nintendo's Gameboy Advance was the format of choice for a revival of the franchise.

With the team reunited and the GBA

providing a strong technical platform, the prospects were good for a worthy successor to the Gunstar Heroes mantle. What we actually got was something too conservative to be considered a sequel, yet reductive of the subtle elegance which marked out the original. In essence, a diluted remake.

New additions such as the vertical shooter stage (a Thunderblade homage) were irrelevant and clumsy. More fundamentally, the weapon and combat systems were inexplicably pared down - no combined weaponry; no throws; and worst of all, no multiplayer. Improvements in directional firing provided little consolation for these omissions. By no means a bad game, Gunstar Super Heroes' failure was its lack of bravery. It did just enough to evoke fond reminiscence... but that's what emulators are for.

So where does that leave us? Back to where we were over a decade ago. Waiting for the world's greatest platform shooter to take back some ground. To show us that 2D isn't dead. Isn't it about time that happened? Capcom appear to be doing it with their Viewtiful Joe franchise. Why can't Treasure make a new Gunstar Heroes title for home consoles?

Like Maegawa says, "If we want to create a perfect 2D game we should use handhelds. For home consoles, we should create a 2D game with 3D polygons." Now there's a thought. Perhaps even a hint of an intention. Ever the blind optimist, I look forward to seeing the day of the Gunstar Heroes' return. Next time, there could be no stopping them.

## Top Boss | Seven Force

Amongst the game's array of bosses, Seven Force stands out as the most creative and visually arresting. As the name suggests, this mechanoid creation transforms into seven different configurations, a bit like... well, Transformers. Hurling through horizontal and vertical mine-shafts, destroying each incarnation is a nerve-searing test of reactions and pattern recognition. Destroy all seven on hard mode and call yourself a hero.



# THE BEAUTIFUL GAME(S)

## GROUP A

GAME	FORMAT	YEAR	PUNDITS OPINION
SENSIBLE SOCCER	AMIGA	1992	Sensible Soccer. If you think we need to say more, get out. So, for now we'll just say "It's through".
OLYMPIC SOCCER	SATURN	1996	Beat this for a selling point, a backheel button. Does it get any better than that? I don't think that it does.
SWWS 2000	DREAMCAST	1999	Like all DC football games, this is rubbish. Has there ever been a console with worse footy games?
WORLD TOUR SOCCER	PSP	2005	It's not that bad. Since it was forced on people buying a PSP for Christmas, it's just too resented to go through.

**QUALIFIERS:** SENSIBLE SOCCER, OLYMPIC SOCCER

## GROUP B

GAME	FORMAT	YEAR	PUNDITS OPINION
FOOTBALL	GRAND-STAND	1973	Pong but with 4 bats and 2 goals. But since it makes Tennis seem like the better sport, it's out.
EMLYN HUGHES INTNL. SOCCER	C64	1988	Even though it had more menus than a restaurant, it still played very well. Mr Hughes makes it through.
GOAL!	AMIGA	1993	Kick Off 3, as it probably should be called and brilliant fun. Blame publishers for the wrong name...
FIFA '96	MEGA DRIVE	1995	By this time, the FIFA series was so long in the tooth, even Ronaldinho was laughing. A first round casualty...

**QUALIFIERS:** GOAL!, EMLYN HUGHES INT. SOCCER

**NAME THE GAME:** Each of the 32 images are of the 32 games included, but which is which? Answers overleaf.



## GROUP E

GAME	FORMAT	YEAR	PUNDITS OPINION
SOCCER	NES	1985	There is something, somewhere in this game that makes it fun, even now. God knows what though.
MATCH DAY	SPECTRUM	1985	Much loved on the Speccy and was one of the best footy games on Sir Clive's little black box
ADIDAS POWER SOCCER	PLAYSTATION	1996	Kick the ball hard and the keeper falls over. Think of this as every bad game being thrown out in one go.
WORLD LEAGUE SOCCER '98	SATURN	1998	Long range shots dipping and spinning over a pitch that is too big in a game too slow. It has aged badly.

**QUALIFIERS:** SOCCER, MATCH DAY

## GROUP F

GAME	FORMAT	YEAR	PUNDITS OPINION
LEAGUE CHALLENGE	BBC MICRO	1986	If Champ Man try to get every bell and whistle, this didn't bother with any. Extremely relaxing though.
PREMIER MANAGER 2	PC	1993	In 2043 Halifax Town are the only good team in Britain. I know, I played that far. Not met the test of time, sadly.
EMPIRE SOCCER	AMIGA	1994	Looked like Microprose with a new lick of paint. With Sensi already out, it was subbed very quickly.
SEGA SOCCER SLAM	GAMECUBE	2002	It's more or less nothing to do with football, but it's frantic and brilliant fun although not flawless.

**QUALIFIERS:** LEAGUE CHALLENGE, SEGA SOCCER SLAM

Every four years, everyone goes a bit football crazy, us included, and the time for the big competition has arrived. Forget the World Cup - this is more important. Which is the best football game of all time? Is it a dodgy version of Pong, complete with goals? Is it massive management sim Football Manager? Do either get through the group stages to the last sixteen? It's time to find out.

### GROUP C

GAME	FORMAT	YEAR	PUNDITS OPINION
STRIKER	SNES	1992	Fast and fun with an indoor mode good enough on its own to make the game get to the last sixteen.
NEO GEO CUP '98	NGPC	1998	It looks brilliant, lovely little cartoon characters running around. Unfortunately it's just not very good to play.
NEW STAR SOCCER 3	PC	2005	It's a bit like Sensi but released in the last year. But instead of a team, you control a player and their life.
PENALTIES	GAMEGEAR	1995	From a 4 in 1 cart featuring more fun stuff, this is basic, but it's a brilliant penalty implementation.

**QUALIFIERS:** NEW STAR SOCCER 3, STRIKER



### GROUP D

### GROUP D

GAME	FORMAT	YEAR	PUNDITS OPINION
MICRO-PROSE SOCCER	C64	1988	Some say the forerunner to Sensi, but for all it's charm and trickery, it just didn't have that finishing touch.
ISS 64	N64	1997	A funny game that involves too much heading and players seemingly gliding. It felt good at the time though...
FOOTBALL MANAGER 2006	PC/MAC	2005	It's the most recent version, just because that is an easy choice. The best fiddling with a database, ever.
FIFA 2005	XBOX	2004	Since they've been going backwards recently, this isn't the latest. This one is quite good though.

**QUALIFIERS:** FOOTBALL MANAGER 2006, FIFA 2005

### GROUP G

GAME	FORMAT	YEAR	PUNDITS OPINION
INTERNATIONAL SOCCER	C64	1983	The C64's version of footy was a very solid and respectable effort but not quite good enough.
SEGA SOCCER	MEGA DRIVE	1990	This sums up footy games - the same game was released as two Amiga games and two Mega Drive Games.
LIBERO GRANDE	PLAYSTATION	1998	Rather than controlling the team, you control the player and for that reason it's interesting, but it's aged badly.
EYE-TOY VIRTUA STRIKER	PS2	2004	OK, so it's just heading a ball at balloons but it does work brilliantly, so it easily manages to get through.

**QUALIFIERS:** SEGA SOCCER, EYE TOY VIRTUA STRIKER

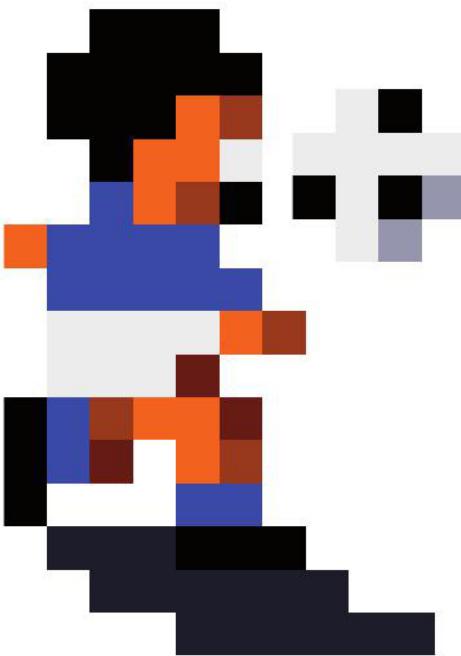
### GROUP H

GAME	FORMAT	YEAR	PUNDITS OPINION
WORLD CUP CARNIVAL	SPECTRUM	1984	Due to a lack of development time the game suffered and this one falters from the very beginning.
KICK OFF 2	AMIGA	1990	Dino Dini clearly knows his football games as evidenced when the sequel to Kick Off arrived.
VIRTUA STRIKER 2	DREAMCAST	1999	Probably the best Dreamcast football game, but that is like picking your favourite plague. Out.
PRO EVO 5	XBOX	2005	Like FM06, this is just wimping out and picking the most recent. It's good enough to go through.

**QUALIFIERS:** FIFA '05, KICK OFF 2

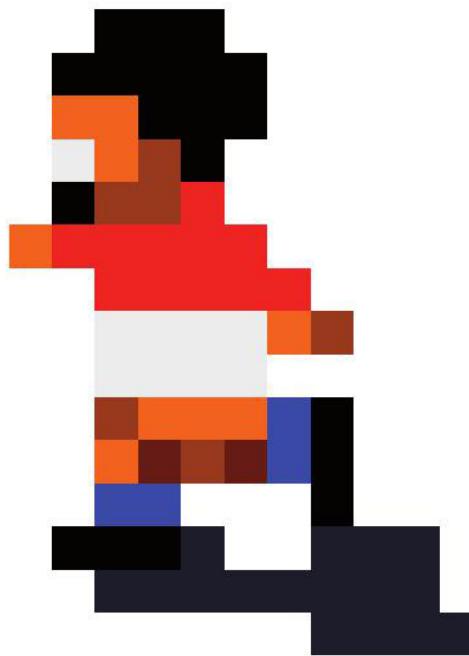
## LAST SIXTEEN

SENSIBLE SOCCER V EMLYN HUGHES SOCCER	NEW STAR SOCCER 3 V FIFA '05	SOCCER V SEGA SOCCER	SEGA SOCCER SLAM V PRO EVOLUTION 5
Even celebrity endorsement couldn't save Emlyn Hughes International Soccer from a good sound thrashing at the hands (or rather, feet) of the immensely playable Sensible Soccer.	New Star Soccer 3 is an amazingly fun game, there should be more where you can get drunk and stumble around the pitch. FIFA '05 is a bit unlucky here since it is the best FIFA. Doesn't help it though.	If this was the real World Cup, this is the match you could get tickets for. Soccer was never great, but it does manage to beat Sega Soccer which only crept through by entering under four names. Fluke!	Sega Soccer Slam is an odd one. Tacky, almost racist in its stereotypes and an annoying commentator. It is fun and easy to play though. In the end though, it's a pretty easy decision, sending Pro Evo through.
<b>WINNER:</b> SENSIBLE SOCCER	<b>WINNER:</b> NEW STAR SOCCER 3	<b>WINNER:</b> SOCCER	<b>WINNER:</b> PRO EVOLUTION 5



## FOUR YEARS FROM NOW...?

So, what does the future for football games hold? Will Sensi still win in 4 years? Well, probably. And there will be gorgeous, but not quite perfected yearly updates too. But is there going to be anything genuinely new? First on the line will be a new Sensible Soccer, launching very, very soon and looking pretty good, it has to be said. Beyond that that, hopefully the Nintendo Wii will bring something different? Controllers stuck in slippers? Maybe!



## LAST SIXTEEN

GOAL V OLYMPIC SOCCER	FOOTBALL MANAGER 06 V STRIKER	LEAGUE CHALLENGE V MATCH DAY	KICK OFF 2 V EYE TOY VIRTUA STRIKER
"It's half-time. Where's my tea?" is just one reason to buy Olympic Soccer (the other is the back-heel button). Despite hating it at the time it has aged brilliantly gameplay wise - it's fast, fun and different. Goal is better though...	This is the first match to go to extra-time. They're just so different. But when FM '06 has got things like Championship Manager 2 and 01/02 it's always going to have enough support to bag a couple in extra time. Poor Striker.	Another average match, a Spectrum copy of a C64 game versus a BBC Micro copy of a Spectrum game. Neither is great, but League Challenge does feel completely pointless so in the end, Match Day squeezes through.	I'd love to put the eye toy game through. I'd love to. I can't though, it's just too limited. It's not even the best game on the Sega Superstars disc - just pipped by Puyo Pop - so heading fun gets beaten, predictably, by Kick Off 2.
<b>WINNER:</b> GOAL	<b>WINNER:</b> FOOTBALL MANAGER '06	<b>WINNER:</b> MATCH DAY	<b>WINNER:</b> KICK-OFF 2

**NAME THAT GAME:** From top left to bottom right 1. Football 2. International Soccer 3. World Cup Carnival 4. Soccer 5. Match Day 6. League Challenge 7. Microprose Soccer 8. Emlyn Hughes International Soccer 9. Sega Soccer 10. Kick Off 2 11. Penalty Shoot Out 12. Sensible Soccer 13. Striker 14. Goal 15. Premier Manager 2 16. Empire Soccer 17. FIFA '96 18. Olympic Soccer 19. Adidas Power Soccer 20. ISS64 21. World League Soccer '98 22. Neo Geo Cup '98 23. Libero Grande 24. Virtua Striker 2 25. SWWS 2000 26. Sega Soccer Slam 27. FIFA '05 28. Eye-Toy Virtua Striker 29. Football Manager 2006 30. Pro Evo 5 31. New Star Soccer 3 32. World Tour Soccer

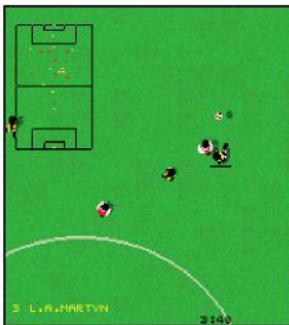
## QUARTER-FINALS

SENSIBLE SOCCER V NEW STAR SOCCER 3	SOCCER V PRO EVOLUTION 5	GOAL! V FOOTBALL MANAGER '06	MATCH DAY V KICK OFF 2
It's like a match between Pele and Ronaldinho. They're both brilliant, and given time Ronal... NSS could go on to become the best game around. For now though the old pro just knows too many tricks.	Since it's a fluke Soccer is even here, Pro Evo easily romps home by being pretty much the best football simulator so far. There's a long way to go still but it's pretty clear perfection can't be far away.	Goal is a brilliantly fun game. It's quick, dynamic and clever. But when it comes to being clever, you just can't beat Football Manager. I know this is like watching Greece in Euro 2006, but nevermind.	This is an easy one, thankfully. Match Day could well be the best Spectrum football game, but it simply isn't as good as Kick Off 2 with its excellent ball-trapping and being-better-than-Match Day tricks.
<b>WINNER:</b> SENSIBLE SOCCER	<b>WINNER:</b> PRO EVOLUTION 5	<b>WINNER:</b> FOOTBALL MANAGER '06	<b>WINNER:</b> KICK OFF 2



## SEMI-FINALS

SENSIBLE SOCCER V PRO EVOLUTION 5	FOOTBALL MANAGER '06 V KICK OFF 2
When it comes down to it, this is the most important match. The most recent (and best) straight football game of this generation against the best one from every other generation (ignoring that Playstation Sensi, of course). What do people want? Games you can confuse for TV, or pixels running around being soaked in fun? I'll give you two guesses.	This is as close to a rematch as you can get from last round. And Football Manager '06 is going to do it again, this time thanks to a basic level of logic. More people own Championship 'Football' Manager, probably. But if you work out how long people have spent playing it, you must be talking centuries. Probably Millennia. Surely it can't lose?
<b>WINNER:</b> SENSIBLE SOCCER	<b>WINNER:</b> FOOTBALL MANAGER '06



## FINAL

### SENSIBLE SOCCER V FOOTBALL MANAGER '06

It's fair to say that Football Manager '06 has been on something of an Amiga killing spree in the last few rounds. It's got through by being the very best at what it does. Since Champ Man 2, the series has gone through cycles, improving to near perfection and starting anew. FM'06 is probably one sequel short of perfection. It's got a few flaws (unrealistic scores occur too often) but it's a hugely absorbing game.

Sensible Soccer on the other hand, is completely different. There isn't that much to it (although naming custom teams is worryingly entertaining). Compared to a massive modern management sim, Sensi does seem simple. That doesn't mean there isn't plenty to it though, just ask someone who can confidently loop in shots from just below the halfway line. When it comes down to it, both are games loved enough to have nicknames, both brilliant played with or without friends. But, Sensi wins for just being pretty much perfect. And we didn't even have to mention SWOS once.



**WINNER:** SENSIBLE SOCCER



# THE EVOLUTION OF THE GAMES INDUSTRY

ANDREW OLIVER OF BLITZ GAMES GIVES US AN INSIGHT INTO HOW

Things have changed considerably since the conception of electronic gaming entertainment, in terms of both the hardware and the industry that it has spawned. Andrew Oliver is one of the stalwarts of the gaming business; from his early years co-creating one of the most memorable icons of the 8 bit era, Dizzy, to his current position as CTO of Blitz Games. Here is his view of the industry from an insider's perspective...

## A Brief History of Consoles

25 years ago, my twin brother Philip and I started making games in our back bedroom. Like so many others, we tried to copy the arcade hits that we'd loved playing a few years before - Space Invaders, PacMan - on the only machines we had available. Those consoles were barely more than calculators, but from them came a whole generation of independent games developers. One of those companies was Blitz Games, now 160 talented staff and growing, which has weathered the storms of four generations of console transition and is

now starting into the fifth.

The development of games machines follows Moore's Law, which states that the complexity of an integrated circuit doubles approximately every 18 months. Thus consoles develop technologically in an exponential curve, from the first generation of proto-PCs (almost the first - following the PONG consoles) to today's super-powered consoles. Each generation tends to last about five years.

The 8 bit machines were the first generation, the hobbyist computers made by Atari, Commodore and Sinclair. Around the mid-80s, the NES appeared, courtesy of Nintendo; it had a similar 8 bit chip to the arcade machines and similar graphics capabilities. Mario was born.

Around 1990, the second generation of consoles started to appear with the advent of the 16 bit CPUs. This gave us the Super Nintendo and Sega MegaDrive - the era of Sonic The Hedgehog.

At this stage, an interest in games was still very much the preserve of the hardcore few, but Sony changed all that with a massive marketing campaign that began the process of redefining gaming from geeky to cool.

By 1995, the 3rd generation consoles were starting to appear. These 32 bit machines included the Sega Saturn

and most famously the PlayStation. A year later, Nintendo followed with the N64 (which was 64bit but only just!).

With the technical and creative possibilities offered by the new batch of machines, console games were beginning to challenge the supremacy of the PC as the home of serious games. New modes of control suggested new genres such as action games, and icons such as Lara Croft not only fuelled many adolescent dreams, but offered entertaining 'kick-ass' games for girls as well as boys - all now in virtual 3D worlds.

As the new millennium dawned we saw the PlayStation 2 released, followed by newcomer Microsoft with the Xbox and a year later, the Nintendo GameCube. The key games of this generation were Grand Theft Auto 3 on PlayStation 2 and Halo on the Xbox.

By now the technical capabilities of the consoles were really starting to shine, although it must be said that many of the earliest games for the PlayStation 2 in particular did not reflect what could really be accomplished. This was mainly due to the unfamiliar technology and the challenges this posed to many developers. By 2004, however, some really stunning games were appearing on the console. By comparison, Xbox developers had it



# THE GAMES INDUSTRY

## THINGS HAVE CHANGED WHEN IT COMES TO GAME DEVELOPMENT

easier earlier on, as the architecture was similar to the familiar PC technology and they were able to make greater strides more quickly. The GameCube also has its passionate followers, and some of the last generation's most beautiful (Ico, for example) and most intense (Resident Evil 4) games have been developed for this very powerful little console.

The PC of course continues to make steady technological progress as well, advancing constantly rather than in leaps and bounds. Consequently PC development is always dependent on gamers being willing to pay high prices every year for the newest, fastest, flashiest graphics and sound cards, and this helps new technologies develop such as programmable graphics cards.

So now the 5 year cycle comes around again, and we are seeing the next wave of consoles. What will be the classics of this generation? As you can see, the chip speeds have recently leveled out around the 3.4 mhz chip, and bandwidth fixing at 64bit, but now we go parallel, and things start get interesting again as we go exponentially sideways.

First out of the gate we have Microsoft who launched the Xbox 360 in December 2005, with games like Project Gotham Racing, Perfect Dark, and many

EA games.

By Christmas, Sony will launch the PlayStation 3. Sony will likely price their new console around the same as Xbox 360 with games like Gran Turismo 5 and Killzone; it's a safe bet to say that every publisher will support it massively.

Nintendo's Revolution is the dark horse. It isn't boasting massive processing power, but then it would be hard to compete. It will be cheaper than the other two and have fewer games, but this being Nintendo, the controller has already been announced as the surprise element to get everyone's attention.

Microsoft's first console was essentially a PC in a box. It was actually a Celeron, 733mhz, 64mb RAM with an Nvidia graphics card; one of its major unique selling points was the hard drive and connectivity to the internet.

Xbox 360 has 3 Power PC chips, all with dual threads, meaning it can run 6 different pieces of code in parallel, which is very clever and very fast. It has 512 Mb of RAM, all of which can be accessed by all processors all the time - very clever and extremely flexible. Typically, a great deal of time on all other computers and consoles is lost while copying memory around from main memory to graphic memory or sound memory. The Xbox 360 has an extremely powerful

ATi graphic card, capable of enormous calculations printing incredible graphics, all in Hi-Def resolution.

It has a hard drive as an extra accessory, for people who want to download extra content, demos, movies, iTunes etc from the internet. Huge amounts of work have been done on this and many lessons learnt from the previous Xbox Live! experience. From the developer's perspective, it's all very easy to program and to make games for, and that's got to be a good thing for making impressive titles quickly.

Now let's compare all this with the PlayStation 3. Again, it's just numbers - what does it actually mean? Which is the more powerful console and will the power matter?

At the heart of the PlayStation 3 is a Power PC controlling a 7 core 'CELL' processor, is that faster than 3 Power PC chips with dual threads? Almost certainly, it's a unique processor, enormously capable, extremely fast, but new and different; its capabilities will have to be learnt through hands-on experience.

The PlayStation 3 has the same amount of memory as the Xbox 360 - 512mb. However, it dedicates half to the Cell processor and half to the Nvidia graphic chip, meaning there's a lot of copying data around the place. They

have special technology to block-copy huge volumes of memory very quickly, but it will still take programming care and planning to get it right.

It has a Blu-Ray disc drive instead of a regular DVD drive, giving up to 6 times the data of a DVD. This is a slightly more expensive medium, but essential for consoles that are designed to be Hi-Def, compatible with vast amounts of graphics etc. It's a way of ensuring that we can make massive games without going to 2 DVDs, and Sony hope to grab the Hi-Def DVD market this way. It can also load assets much faster, which could give PlayStation 3 a significant advantage over the longer loading times seen on the Xbox 360.

PlayStation 3 also has the optional hard drive and internet connectivity. On-line connectivity is fairly new to PlayStation and this may be an area where Microsoft gain an advantage with their experience of Xbox Live!

Whilst this does look to be the superior machine, it's coming out many months after the Xbox 360 and will be more difficult to program, so it's expected it will take some time for the greater quality to be noticeable. Sony just have to hope that Microsoft don't get too much of a foothold as market leader in the next gen. But Sony's major USP has to be its brand name and backward compatibility. Consumers will like the fact they can step up to the PlayStation 3 and still run all their PlayStation 2 games, and that's a major advantage. In addition, there are the hugely popular add-ons such as EyeToy, SingStars and

dance mats.

So what about the Revolution? It has nowhere near the sheer power of the other two consoles, so it will lose, right? Wrong! Nintendo has a very different strategy and it's actually a very good one.

Something to remember about Nintendo; they are very profitable, creative, original, and don't spend all the effort trying to be number one at all costs. Nintendo make games - fun, creative entertainment. They are not chasing the goal of overtaking films, like the other two. Their console is like a very fast GameCube, which technically is actually a very nice console. Nor are they chasing the Hi-Def dream, which will mean they don't have to be as fast to create the same kind of experience, if played on a regular TV.

The Revolution's major USP is its controller - it's revolutionary! It really isn't like normal game controllers, looking more like a simple TV remote control. Nintendo believe that having loads of buttons is confusing and more aimed at hardcore players. They want to go after the mass market of casual gamers, but the hardcore will buy it as well because it's so cool and revolutionary.

So apart from being clever, what is this new controller? Well, you point it at the receiver you typically put on top of your TV and it knows exactly where you are pointing, somewhat like pointing a laser pointer at a board. This effectively gives you a mouse pointer on the screen, which is unique for a console. But it also has depth perception, so moving it back and forth zooms in and out of screen, something a mouse can't do (although middle wheel sometimes attempts this). And lastly it can detect tilting, so you can twist things. It sounds wacky, it sounds different and you wonder whether it will work. I've spoken to people who have played some of the internal games with the new controller, and they have said it's truly amazing and that if they could only buy one new console, it would be Revolution, because it truly offers possibilities to create entirely new types of games - not just sequels with better graphics.

Just as Nintendo have had killer apps for GBA (Pokemon) and DS (Nintendogs), they have almost certainly got some surprise games; so the chances are you'll buy their console, whether you have another anyway.

So what does the consumer get?

### Incredible technology with millions spent on entertainment titles

An amazing thing happens with consoles; they can afford to be so much faster than PCs and much cheaper. Why is this? The way to make a computer faster is by spending more money on R&D and integration, getting more functionality down onto a single chip. This level of sophistication, creating full computers on a single chip, costs literally billions; but once you have that



piece of silicon, it's relatively cheap to mass-produce. However, to make it a worthwhile investment, you have to know that you'll have a demand of tens of millions and that it's 100% fixed for many years. It won't be possible to tack on a bit of extra memory or change the graphic card etc. or even fix a bug in the system!

PCs have the huge problem of legacy - backward compatibility. People expect PCs to run all applications, some old, some new, some written in 16bit, some in 32bit and some in 64bit code. So whilst the PC processors are very fast, they must be based on speeding up old technology. Consoles like the PlayStation 2 appear backwardly compatible, because they simply include the old chip in the box - so they can be radically different and improved in design.

### Cheap to buy

PlayStation 3's are classed under the Supercomputers act, as they have in excess of 1 teraflops of processing power, way more than any PC. Yet this is a computer you'll be able to buy in the high street for £200 at Christmas!

### Movie-like games

Do we actually need all this processor power? What are we going to do with it when we have it? The simple answer is that if we want to compete with movies, which we do, then we MUST look as good as they do; and getting that kind of reality takes enormous real time processor power.



**Xbox 360 has 3 Power PC chips, all with dual threads, meaning it can run 6 different pieces of code in parallel, which is very clever and very fast.**



#### **Massive depth and complexity**

Games like Grand Theft Auto 3 gave people the taste of virtual worlds. 'Real' alternate reality cities with all the citizens and their situations all accurately simulated, so that you can become involved in that gangster movie, rather than just sit back and watch it as a film.

#### **More and more 'A-list' film and pop stars are getting involved in games**

Even Peter Jackson helped direct the recent King Kong game, and Steven Spielberg has signed a directorship deal with EA to co-direct some games.

#### **What Are The Implications For The Games Industry?**

A typical game on PlayStation took 10-12 people for 18 months to create. With all the overheads, the costs soon end up at around 1 million pounds. 5 years on, in the year 2000, the teams were between 20-40 people. People are predicting that teams will go up to 80 people on next gen games, perhaps even more. Inevitably, the larger the game, the more complex it is, the more attention to detail it has, the more content it needs, then it must require more people. But it's not just team size that goes up; it's the technology needed to create it.

However, the industry has a problem; it can still only charge a reasonable amount for the game in the shops. Typically these next gen games will start slightly higher, at maybe £40-£50;

but we'll see them slide to the current generation prices within a couple of years. So inevitably we will see fewer but bigger games being made; it's the only way the economics work.

## **What Makes Up Next Generation Graphics?**

Since GTA3 and all the sports and driving games, people want realism. It was originally thought that once games had gone 3D, all that was left were refinements to create better 3D, that there were no massive leaps left to make. How wrong we were...

To develop quality visuals that can look like real life but that are generated in real time needs highly sophisticated new techniques. It is still all about polygons - immensely more of them! - but every one so much more complex. Polygons don't just have a texture any more, they have a colour map, normal map, specular gloss & reflection map and a subsurface mask.

On top of this are added other effects such as diffuse lighting, ambient occlusion, rim lighting and soft shadows, all of which combine to give you a very realistic feel. And as if all these new things weren't enough, there will be a global illumination algorithm lighting the scene using a High Dynamic range system to store the colour values, because RGB just isn't good enough anymore!

And just to top it off, these new consoles can have programmable shaders, so that if people come up with even more sophisticated techniques to help render polygons with yet more effects, these can be programmed directly onto the graphics processor.

But it's significantly more than just better graphics...

#### **More specialists/consultants**

We used to write scripts ourselves as programmers for the 8 bit games, but as time moved on, we started using writers who had written TV and film scripts and were professionally trained. Now it's inconceivable that you wouldn't use professionally trained script-writers for games.

We've had cameras that follow simple algorithms to follow spine paths, or stay behind the character at a certain distance, height and angle. Next gen will see us hiring camera consultants, to try and ensure that the action is framed correctly.

We've never even needed any kind of lighting specialist, just artists. Now it's clear that each team on a next gen project will need a lighting specialist, because this is such a hugely important area, a crucial component of the look of the game. With so much horsepower, realistic lighting is possible, but getting it right will take a lot of skill.

#### **Motion capture**

If your game has human beings in it, people will expect the models to look real, which is incredibly hard. But then there's the movement... Late PS1 games and PS2 all used motion capture, which can look highly realistic but has the restriction of only playing back canned animation. It can't react properly to being punched, pushed, shot correctly, or stumbling on uneven ground etc. And so you need to blend mo-cap with physics - extremely difficult, but possible, as "Natural motion" is proving.

However, these motion-captured characters will still appear lifeless if you can't capture faces. Unfortunately there isn't a good solution for capturing faces during the rest of the mo-cap shoot, so your actor needs to sit in a facial capture booth and get sampled. Most importantly, you need to facially capture the actors speaking, so you need to set this up in an audio booth and get the person to not only read the lines, but to act the lines as well - with the critical limitation that they can only act with their face. They can't move the rest of their body as they must stay firmly in front of the facial capture equipment! It's possible, but expensive and takes a lot longer, with more specialist equipment and engineers.

#### **More physics and effects**

People see the improved graphics and not unreasonably expect things like a character's long hair to look real, their clothes to flow realistically as they run and things to break into pieces in realistic ways, so you can see all the tiny details perfectly and they look real.

This isn't graphics or animation, we need to start doing physics simulations; incredibly complicated math goes into calculating these things, but we now have the horse power and this is one of the places it's really needed. Water can't be an animating texture any more, it's a fluid dynamically programmed procedure!

#### **More middleware**

There's going to be a lot more specialist middleware to cater for all these advances. We've seen Renderware and now the Unreal engine for graphics engines, Havoc for physics, and there are various middleware solutions for on-line connectivity, AI behaviour, even speech recognition. There are also countless other middleware solutions for other tasks.

These all cost a lot of money but make sense to license in for a game, as it means that a developer does not have to write or maintain their own code base for large chunks of the game's functionality. On the downside, it can mean that the game design is constrained by the functionality of the middleware; but initial research into the capabilities and limitations of the middleware spec should avoid that particular risk.

## Real actors

It is now expected that all games have talking characters, and up until around two years ago, we'd all use voice-over actors, radio actors or possibly B-list actors. This increased the cost of voice recording, but generally in the region of hundreds of pounds to thousands of pounds. Now however people want to see real actors, whether than be Pierce Brosnan or Sean Connery, and this is where costs really run away. Our record is \$10k per hour for a voice artist, but recognized Hollywood actors ask even more than that, because they bring a name and credibility – oh and agents. Now, mix that with getting these guys to do motion-captured dialogue and things get really difficult and expensive...but, the customer expects it.

The ever-improving face of video gaming...  
Top | *GTA3*, Xbox  
Middle | *Shadow of the Colossus*, PS2  
Bottom | *Resident Evil 4*, Gamecube  
Far bottom | *Killzone3*, PS3 (Woah!)



you can do game-play-wise. Music is another example: customers are now starting to expect to hear the original music from a game with a film or TV show license. Not only is the license to the real music costly, but the music companies know you need it and so you end up in an awkward situation. Seriously huge amounts of money are starting to be paid out to secure the music from the films.

Sports games are yet another instance, as you cannot do a sport game without being official, and the official sports organisations all charge a great deal of money for the licences, logos, likenesses and so on.

## More location shots

For more realistic games, people expect real locations. We've seen this for some time now with golf games and driving games based on real fairways and race-courses, or cities like Monaco. But as Getaway proved, people like real locations, and just as Bond travels to exotic locations to film, we'll need to re-create real looking places. Working from a few photos, as we've all done in the past, isn't going to be enough; we'll see more people traveling to get more reference material.

## More people

Larger teams are inevitable, but unfortunately, doubling the size of the team does not necessarily double the amount of work that gets done. You hire managers to manage the larger teams, but by hiring more managers, you're increasing the team size.

Teams have to accept sub-contracting or outsourcing is the only way to go; even if the company has money and

space to sit another 20 people for the team, it's not always, or even usually, a good idea just to pile on extra people.

Developers need to be smarter and organise outsourcing large areas of work like building levels, characters, movies, so that the team becomes focused on the game. Then each person in the team becomes responsible for certain areas of the game and they set the benchmark, guide the contractors and maintain the high quality standards.

## Logistics

Whilst not having these large teams all employed at one location can be advantageous in some respects, this in turn means they are spread around and travel starts to become an issue. If they are UK studios, the costs will be higher as UK wages are higher but communication is easy and travel is usually only a car or train ride away.

If outsourcing is done further afield, typically in India or China, you can find highly skilled 3D artists that will do very good work very cheaply. However, communication is more difficult, mistakes can and do get made, and ultimately it means occasionally getting on a plane to sort it out.

## Higher budgets means more risk

The higher the budget, the higher the financial risk; and ironically, the higher the financial risk, the more money is spent to insure against its loss. It is not unusual now to find publishers paying an extra 10% of the value on 'completion bonds', which are set up to guarantee the game is completed. This copies the film financing model.

### Expensive environments

If you're going to create massively complex games, then that means vast amounts of data. You need the absolute fastest PCs you can buy and even then they are less powerful than the consoles you are creating the assets for; this can make pre-visualising some of the work difficult. It is also essential to have solid version control and back-up procedures in place.

### More politics

When you get large amounts of money, the agents, accountants and lawyers take real interest. There was a time when you'd copy games, copy likenesses, plagiarise film concepts, and get away with it all. Now everything has to be checked and approved, and sometimes it feels like these places employ 'NO' men, in both senses: it takes ages for people to give approval, and then it's often a 'No'. The alternative however is to risk being sued for some infringement of copyright law.

### Micro payments

There are plans afoot, certainly on the Xbox 360, to get extra revenue straight to the developer by charging a small amount for money for extra content. It might be a dollar per extra track, with over half going back to the developer or publisher.

### Advertising

With the increasing popularity of online games, it's going to be a lot more common to see adverts in games. We've seen some in racing games and sports games on billboards, but it's been small fry and testing the water. I think this area is about to get very big and will provide valuable extra money for development.

### Convergence

There are many computer graphic movies and yet the games made haven't used the models, actor's time, etc., largely due to the technical limitations of the consoles. However, most CG movies being made now will work with the games companies and all the assets, models, motion capture etc, will be used in the games. For example, when recording voices for the film, they'll do the game ones at the same time. It's not just CG movies, either; there will be a lot of time and money saving if films and games are made in partnership.

### Risk reduction

Publishers will look to reduce risk and that will very often mean, as it does now, that a sequel is a very good thing. Not only are sales predictable, but typically about half of the work can be reused from the last game. The downside to this approach is that game sequels, like their movie counterparts, can sometimes lack the vigour and creative flair of the first production.

### Can publishers make money?

They have to; the market has to

work. Interestingly, Microsoft lost money on the Xbox; of course a company that size can afford to, but it took that risk to ensure that there is a market there for the publishers to make money. Without the games, they can't sell the consoles and the business is lost. So long as a handful of publishers have a good business model, then it is deemed to work. But as time goes on, we will undoubtedly see further consolidation.

### Can developers make money?

As co-owner of a large independent studio, I certainly hope the answer is yes! However, publishers do keep buying studios, so they can endlessly produce sequels to their best seller. We like our independence; it means we can keep doing different games and not get bored doing the same old thing, and it benefits the gaming customer by offering them a wider choice.

### Can you remain creative?

By resisting doing sequels, we feel we are being creative. Now some say that doing licenses isn't creative, but we disagree. Okay, we have a subject matter given to us, but then we have to create a good game in keeping with the brand. This can often be harder, design-wise, than working with original material; it's very novel and interesting and each one is a different challenge.

### How to be a successful developer

Work for good people who will pay you and ensure there's a good reason they will want to pay you. Original games are very easy for a publisher to cancel. Sometimes, developers are working on games for publishers who are known for canceling projects, or who have just not got a good record for paying reliably – again, this can be dangerous. Conversely, if the publisher has paid a lot of money to get a license that will make an obvious big seller, then they are not going to cancel the game on you, unless you screw it up. So don't screw it up!

### Making entertainment

People love games; they want to be entertained. They will always be looking out for something new and fresh. People don't really just want endless sequels and so there will always be a place for originality.

### People don't mind how they get their entertainment

With internet connectivity now such an integral part of the consoles, people won't need to buy the DVD. Soon it will be possible to download games like iTunes, raising the possibility of developers having the upper hand when distribution is truly digital.

In conclusion then; now as much as in the past, and perhaps even more so, the possibilities for games are enormous and very exciting. Within this next generation we will start to see visuals

approaching real life quality. The huge costs involved will unfortunately hamper originality and creativity. It's an enormous amount of work, and the industry needs more talent. A new generation always rewrites many of the rules: in short, it's a good time to get in!

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## Who is... Andrew Oliver?

It's impossible to tell the story of Andrew Oliver without mentioning his brother and long time business partner, Philip.

Introduced to computers at the tender age of 12 after getting hooked on a friend's Apple II (closely followed by their older brother's ZX81) it seems the Olivers were fated for a long and prosperous career behind the computer keyboard.

Although their first published work came in the form of a "type in" printed among the pages of C&VG magazine, their real introduction came in the form of winning a competition for a Saturday morning TV show hosted by unfunny clown, Jeremy Beadle.

From then on, each time the brothers made the small amounts of money a young lad could hope to get from a bit of home-brew programming, it was invested in a newer and better machine, which in turn allowed them to write newer and better games.

Wanting to create arcade style games for the home systems, the brothers set about learning to program in assembler. One of their most useful experiences came about due to a lack of adequate tools for achieving this, and they were required to create a custom graphics program to help with the type of games they wanted to achieve.

This allowed them to create their first arcade title, Cavey, which provided the revenue for them to buy an Amstrad CPC and once again upgrade their programming skills.

A steady stream of games and software, carefully aimed at emerging markets the whole time, presented the opportunity for the Olivers to start a business immediately after college; a gambit that paid off well.

After writing a number one hit for newcomers Codemasters, the Oliver brothers were fast becoming established as hot programming property. Gaining the upper edge by devising a method of directly porting Amstrad code to the Spectrum, they were able to maintain their breakneck coding pace while writing high quality games across multiple formats.

Their incredible and relentless dedication to hammering out quality code is still paying off today, and is a remarkable inspiration for any code jockey looking to find their way into the massively competitive industry partly founded by the brothers Oliver.



Retro Fusion caught up with industry veteran Jon Hare in the small town of Leamington Spa in Warwickshire famous for its pump room and being the home of Codemasters. Sensible Soccer 2006, the latest game in the franchise, is near release and Jon's excitement about his new project is evident for all to see.

A pleasant evening was had at a local wine bar talking about the old days and specifically about Sensible Software and its flagship title, Sensible Soccer.

### How did the idea for Sensible Soccer come about?

The idea for Sensible Soccer came about when we were making Megalomania. We were basically working very late each night as the timeframe for the game was very tight, actually ludicrous, and we had very little sleep for a couple of months. We were working long hours in the office and, when hanging around for new builds of Megalomania, we found ways of entertaining ourselves.

We played a lot of the football games Kick Off and Kick Off 2 and there were a few things that were irritating us immensely as we were playing it. And we were saying to each other if we did a football game we would get rid of this and get rid of that and as much as we liked it we were criticising it. So towards the end of Megalomania we decided to think about making a football game. First thing we did was make a team of players out of the main character in Megalomania. So the first version of Sensible Soccer was a bunch of Megalomania football players running around in a Megalomania world as the pitch was the same perspective as the background in that game.

So when Megalomania was finished, within a couple of months we had a playable demo of Sensible Soccer. Initially it was going to be published by Mirrorsoft but eventually was sold to Renegade.

### Who was in the Sensible Soccer development team?

The team was very small. I was the designer and the graphics artist. Chris Chapman was the lead programmer, Richard Joseph did the sound. Chris Yates did some technical stuff.

### What technical tools did you use?

68000 Assembler was used by the programmers. As the artist I used Deluxe Paint, I really cannot remember what version we used but we used it to design stuff on

Sensible Soccer and Megalomania at the same time.

### Did you think you had a hit on your hands at the time?

You get a feeling for it, and very early on with this one we knew it was good. It's unusual to know that early.

### Why did you develop on the Amiga, why not the ST?

If you look at the history of Sensible Software before the Amiga games, we concentrated mainly on the Commodore 64 so the natural progression for us was to move up from the 64 to the Commodore Amiga. The Amiga was the perfect machine for the developer as there was no third parties involved – no Microsofts or Nintendos taking a cut of the proceeds. All the development environment was there. The development process was enjoyable – everything about the Amiga was brilliant.

**The new Sensible Soccer 2006 is fast, playable and presentable with a modern presentation, but the original Sensible Soccer is still in there.**

Megalomania was the first game with speech in it on any platform. Cannon Fodder was the first game with vocals [combined] with music – this could only be achieved with the Amiga at the time.

The cost of development in those days is not comparable to these days. The Cannon Fodder music video cost £200 to make, everyone remembers it; the tune, the video. Financially these days £200 is nothing.

In those days you did not add value to a game by chucking money at it to make the graphics better. You added value by having good ideas, and those come free. These days you have to jump through hoops to get a game out. You have publishers who are

worrying about their shareholders, teams of 20-30 people, middleware; everything is different now. The Amiga basically had its own middleware – everything was provided. These days you spend a year creating the 3D environment before you can do anything. With the Amiga you would have an idea, create some sprites, introduce a control system and you had something playable within two weeks. These days it takes an immense amount of time to get that far.

### What other systems did you work on as well as the Amiga?

The ST, Megadrive and SNES were used in the studio as well as the Amiga. It was always the host system that the game was designed on that was the best version made. The Amiga, ST and Megadrive all had 68000 processors. The SNES was a bit of a one-off design-wise.

### Which Sensible Soccer version was the best?

In longevity I think it was the PC version as people are still playing it but I don't think it was as good as the Amiga version.

I have been saying for many years that I don't like games on multi-formats – the original version is always the best yet, in this case the Amiga. I do like the Megadrive version now though.

### With the new version of Sensible Soccer - Sensible Soccer 2006 – what formats are supported?

The PS2 and XBOX are the main systems catered for – we are talking about others like the PSP and the 360 also. Codemasters make the decision and I go along with what they decide. Historically Codemasters have not had a strong relationship with Nintendo so the Gamecube was not considered this time.

### Why was Sensible Soccer such a big hit in your opinion?

It was simple to play and was the best football game around at the time it came out. The football world created was accurate and even people who did not like football games liked it. The game was very polished. These days there is a lot of sloppy work out there. All Sensible Software's products back then were polished, tight and slick.

There are a lot of good things in the new product that inherit the ethos from Sensible Software in term of quality – it's not perfect yet, but I am a perfectionist. It needs to be

# JON HARE TALKS TO US ABOUT LIFE, LOVE AND SENSIBLE SOCCER

...well, Sensible Soccer anyway - Interview by Chris Wilkins

# Sensible Soccer 2006



▲ Screenshots from the new Sensible Soccer 2006 game which should be out by the time you read this. Let's hope that the game is as playable as its legendary predecessor.

tighter before I will be happy. I think the challenge to get a 3D game to play fast is huge and I think we have got around that. It plays very similar to the Amiga version so is very easy to pick up. Goal keeper control is with the right stick and we have now introduced a 'sprint' action which is familiar to modern gamers.

#### Why was your first fray into the 3D arena not successful?

Because it was not polished and was not good enough. The 3D engine was sloppy as it was developed by a group of 2D programmers. We came into 3D two years after other companies. We were so successful on the Amiga and enjoyed ourselves and the money we stayed with it and were literally left behind. It really hit us when we had to increase the size of teams and had the challenge of learning how to program 3D with a deadline getting closer and closer. We had to get something out. It is by far the worst Sensible Soccer game that has been released.

#### Why is now a good time for a new Sensible Soccer game?

I have been wanting to do one for the last 4 or 5 years and now is the right time as I feel the Fifas and Pro Evos have gone as far as they can without changing the way they play and as such they have become stagnated. Fifa has come on in the last version, but it is not a brand I like even though I respect what

Electronic Arts have done with it. The new Sensible Soccer 2006 is fast, playable and presentable with a modern presentation, but the original Sensible Soccer is still in there.

The initial audience we are aiming at with Sensible Soccer 2006 are those who played the original. A huge number of people have played the game at some point in their life. In a survey Codemasters did last year, Sensible Soccer was the second most popular game voted by gamers. Number one was Fifa or Pro Evo – gamers liked one or the other so they both shared the top spot. Their second favourite was always Sensible Soccer.

Younger people will like the new game due to its pick up and play qualities. My daughter likes it due to its simplicity compared to that of Fifa and Pro Evo. So it is hoped that kids will play Sensi against their older brothers and dads.

It is also different enough to appeal to those who have Pro Evo and Fifa and therefore those same people will hopefully buy Sensible Soccer as well.

#### Will XBOX Live be supported?

Due to the speed that is associated with Sensible Soccer, XBOX Live will not support the game as its essence would be removed.

#### What is your honest opinion of Kick Off 2 and Dino?

I have never met Dino but know there is a perceived rivalry between Sensi and KO. There

are problems with KO and KO2 that are fixed in Sensible Soccer and as I say both Dino's games were an inspiration. More people play Sensible Soccer than Kick Off but I know some like KO more than Sensi.

#### If Sensible Soccer and Kick Off 2 met in a football final, who would win?

Sensible Soccer would beat Kick Off 2 in a final as the game is more fluid and has more variety in play. There are no fluid tactics in Kick Off. In Sensible Soccer you can think like a footballer and play as a footballer would play. Sensible Soccer is the best football game in the world.

#### If Sensible Soccer 2006 is successful, will there be a follow up?

If Sensible Soccer 2006 is successful, then there will likely be a 2007 and a new franchise created. There is an awful lot more things we can do with the game going forward.

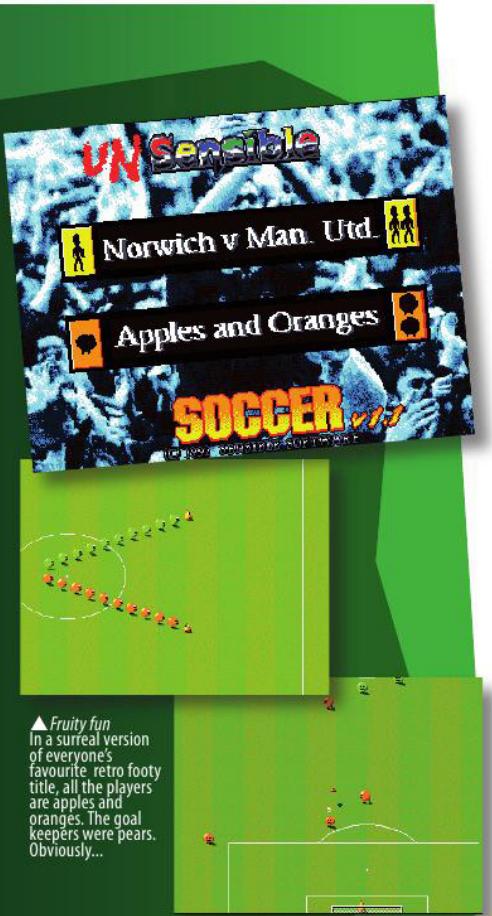
#### In the current version, is there a Welsh team?

Yes, there is a Welsh team, but as in real life they are not very good (cue solitary laughter and one miffed editor)

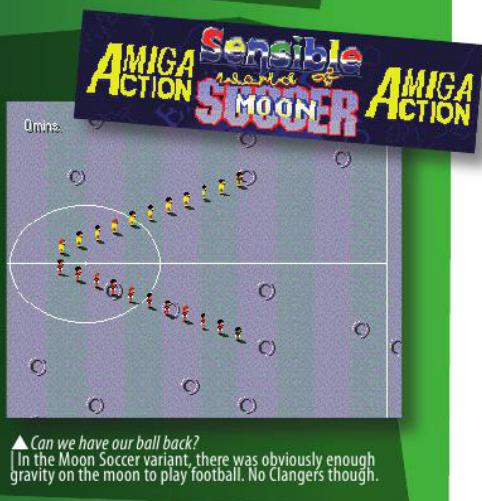
Thanks must go to Jon for taking the time out from his busy schedule to be interviewed. Sensible Soccer 2006 is out now.

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▲ **Fruity fun**  
In a surreal version of everyone's favourite retro footy title, all the players are apples and oranges. The goal keepers were pears. Obviously...



▲ **Can we have our ball back?**  
In the Moon Soccer variant, there was obviously enough gravity on the moon to play football. No Clangers though.



▲ **They thinks it's all over**  
I say chaps, this looks rather spiffing in good old black and white.

# THE SENSIBLE P.R. MACHINE WAS SENSIBLE WORLD

With the 2006 version of Sensible Soccer just released, it's time to take a short break from compulsive finger-crossing and cease those dubious offerings to dearly-beloved dark deities. We must simply trust to fate that the new release will maintain the exceptional quality and reputation of the series. Judging by past performances, there should be no need to fear - even the demo versions of Sensi that were gleefully distributed to various magazines throughout the 1990's could often be found to possess memorable touches of flair; and this tendency to go the extra distance on coverdisk promotions deserves some sort of special homage. Like this one by Peter Parrish, for instance.

## Fruity Cockneus

Someone at Sensible had a pleasingly developed sense of the absurd. It was Amiga Action that provided a coverdisk platform for one of the most bizarre metamorphoses of the game ever witnessed, under the revealing title "Unsensible Soccer". Though traditionalists could satisfy themselves by playing a gripping encounter between Norwich City and Manchester United (with all just and righteous persons leading Norwich to glorious victory), it was the curious alternative match that provided the gateway into an unknown programmer's damaged subconscious. Inside which, surprisingly, lurked a love of silky-skinned fruits.

Who would triumph in a match between anthropomorphised apples and oranges? That eternal question could at last be answered by this strange demo. A nation of fans was thankful for finally being given the chance to battle out this ancient five-a-day grudge to any number of gripping conclusions. Green vs Orange. Pomaceous vs Citrus. Bensons vs Del Monte. These are the fixtures of which dreams are made. Err... yes, anyway. A few other questions were still raised, such as why both sides had elected to play pears in goal. Presumably pears are famed in the sentient fruit community for their agility and cat-like reactions.

The weirdness didn't end there.

## Gravity Gets Me Down

Another Amiga Action giveaway, "Sensible World of Moon Soccer" took a tentative look into the crystal ball of football. Not content with forming a breakaway group in Europe, the mysterious G14 organisation of this dystopian future society had evidently expanded their vast empire of greed to reach, literally, intergalactic levels. Armed with the ability to sell broadcasting rights to the entire universe, rotund chairmen had constructed fabulous stadia across the solar system and purchased a vast array of alien talent to bolster already over-inflated squads. Meanwhile, arguments raged on Earth as to whether it was entirely right and proper that the team should be led into the forthcoming Universal Cup by a two-headed gentleman from Outer Andromeda.

Essentially, this was a limited-play demo of the original Sensible World Of Soccer - with the added quirks of strangely blood-cell shaped craters littering the pitch and player names straight out of the "no vowels please" school of Role Playing Games. The function of the craters became pretty clear the first time a hopeful punt from nippy winger X'nnthzvbn landed in one and spun off in a random direction, encouraging all kinds of attempts to beat the 'keeper with wacky moon-pox-aided ricochets. Oddly, the ball never drifted off into space when booted too hard.

## Don't Mention The Football

In celebration of England's tumultuous love-hate relationship with the fixture, the mighty beings at Amiga Power provided a special "England vs Germany" coverdisk triple-header, with each encounter featuring a slightly novel twist. Admittedly, the twist for the 1966 match was just that it appeared in black and white, but that did make the game look ever so classy and slightly art-house (albeit without any existentialist trauma about whether the ball crossed the



Someone at Sensible had a pleasingly developed sense of the absurd

# IS OFTEN FAR FROM SENSIBLE... LAND OF SPINOFFS

line, or spontaneously melting players ruminating upon their futile existence). 1993's pairing left the surprise aspect up to the player - namely, could you make Graham Taylor's England function as a successful footballing unit? Of course, in each of these games you could also turn to the Germanic side in an effort to reverse World Cup history or slay Taylor's tigers with your ruthlessly stereotypical efficiency.

Easily the most interesting, though, was the not-at-all-jingoistic chance to play a game in 1944 - a sly and subtle reference to some popular war or other. In this exciting engagement, the usual Sensi chaps were replaced with the little blokes from Cannon Fodder (another Sensible Software classic) and the ball appeared to be a touch more explosive than normal - as well as a touch more grenade-shaped. Those things were possibly related. Today we can interpret this mini-game as a satirical comment on the perceived "softness" of modern football and, indeed, it's quite likely that a violent grenade-induced death would produce more than just a free kick from the referee these days. Interestingly, this was not the only time that Sensible's two crowning achievements would temporarily merge for coverdisk purposes.

## Under The Gun

What better way to honour Christmas than with a deadly combo of football and machine guns? Amiga Format certainly thought this was a winning idea and merrily distributed "Cannon Soccer" to the world. Whereas "England vs Germany" had been a case of Cannon Fodder gatecrashing Sensi, this coverdisk was pretty much the opposite. Organised in two chapters, the

first saw your plucky band of marines dumped on a familiar green surface and facing a seemingly never-ending horde of ultra-enraged footballers (diabolically cloned from Duncan

Ferguson's DNA, one must assume).

The next mission took the fight directly to the enemy, as your band of brothers sought to infiltrate and destroy

their top secret Arctic training camp. Or something.

In a similar vein, the Public Domain games "Sensible Massacre" and "Sensible Massacre II: Bulldozer Butcher" mined the rich Sensi-Cannon Fodder crossover seam in a totally unofficial fashion. Clearly upset with England's inability to reach World Cup '94, the author of

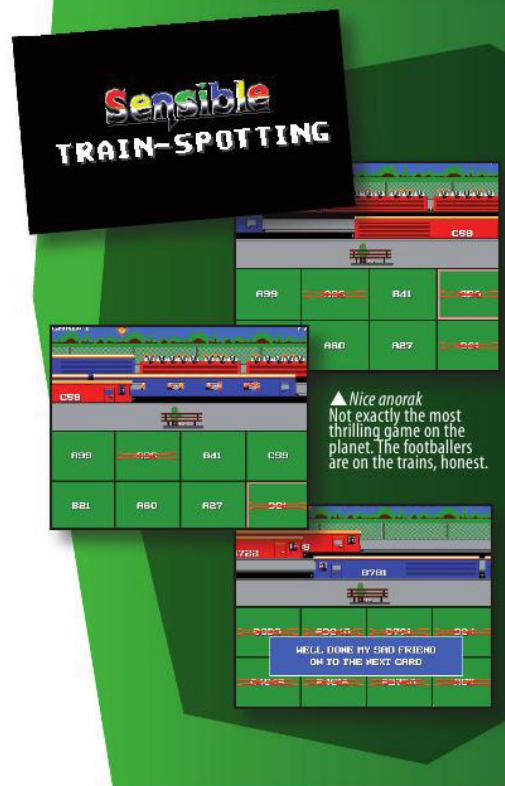
**The twist for the 1966 match was just that it appeared in black and white**

these titles decided that someone had to be punished. Curiously, he decided to blame Holland rather than rubbish tactics - which is why the original "Massacre" sees your brave goalie fending off a veritable army of Dutch strikers in the style of Missile Command. By the second half he'd apparently lost his mind completely, giving the player control over a bulldozer and orders to maim and mangle as many (this time anonymous) opponents as possible. All good, clean, wholesome fun.

## Last Train to Transcendental

Slowly chuffing its way past each and every Sensi variant though was this... what? What do you mean "Sensible Trainspotting" had nothing to do with football? Some of the trains were full of fans heading to away matches, obviously. An entertaining mini-game given away by those gentleman scholars at Amiga Power, this was, unfortunately, nothing to do with Irvine Welsh. That disappointment aside, it was far more fun than a trainspotting simulation had any right to be. Functioning a little like a graphical form of bingo (except with balls shaped like gigantic steel contraptions full of people) it was the players' task to spot the correct trains and tick their numbers off a list within an allotted time limit. Premature ticking was harshly punished with a clock-bothering penalty. There were no sinister aspects like horrible teenagers being splattered into bone-mush by zooming engines - this game was just as it appeared, a charming farewell from Sensible Software which, like everything mentioned here, seemed to personify their approach to "the industry" and the agreeable attitude they had towards their fans. Bless 'em!

Now, let's all go and furiously practise our aftertouch technique.





# COMMODORE 16

Within the UK the system was adopted as a cheaper alternative to the C64 and Sinclair Spectrum

In 1984 Commodore were ruling the 8-bit computer market with the Commodore 64 and it was at this time that their CEO Jack Trammel decided to replace the commercially ageing Vic 20 with the 264 series that included the Commodore 16, 116 and the Plus 4.

The Commodore 16 has 16k of RAM, the same case design as the C64 breadbin and is a stylish charcoal grey colour. The 116 has an equal specification to the C16 but with a remodelled case featuring rubber keys. The Plus 4 on the other hand has 64k of RAM, built in office software and a user port all within the same miniature case of the 116.

All three computers use a MOS 7501 Central Processing Unit running at 1.76 MHz and an all-in-one video, sound, and I/O chip affectionately called TED (the MOS 7360 chip to the techies). The TED chip was revolutionary in its time offer-

ing a 128-colour mode for the system, running at a resolution of 320x200, a video mode that was relatively unheard of in 1984. The systems are compatible with most Commodore hardware including printers, disk drives and modems.

The 264 series was bundled with Basic V3.5, an improved and enhanced version of the language that appeared on the Commodore 64. Due to the lack of hardware sprites and the SID music chip, the 264 series suffered incompatibility with the huge range of popular C64 software that was available – a huge oversight on the part of Commodore.

Within the UK the system was adopted as a cheaper alternative to the C64 and Sinclair Spectrum, and was seen at the time as more of an educational system than a games machine. Both the C16 and the Plus 4 were sold bundled with a range of games educational titles and a cassette player. The software

included with the Plus 4 was though far superior to that of the C16 package due to the extra memory that the system enjoyed.

To many the 264 series of Commodore computers was perceived a failure. This is in fact far from the truth; worldwide sales of the 264 series were in excess of one million units, helped along by a buoyant Eastern European market where the Plus 4 was the computer of choice for many schools.

The incompatibility between the Commodore range of computers caused huge confusion for consumers, and publishing houses inadvertently placed the 264 series in direct competition with the C64 system through mismanagement of marketing.

Production of the 264 series of Commodore computers stopped in 1988, four years after their initial launch.

## THE SOFTWARE

During its shelf life the 264 series was blessed with over 600 commercial games, business and educational titles. To name all the classic games for the 264 series would take many pages; we will therefore look at a number of successful publishing houses that supported the 264 series.

### Mastertronic

The leading 8-bit budget publisher Mastertronic took to the system well and released 39 titles for the C16 including a port for the C16 of Finders Keepers (a brilliant platform adventure), Mr Puniverse (a follow up to the successful Big Mac) and Bandits at Zero (a fast paced jump jet arcade game).

### Gremlin Graphics

Gremlin Graphics added their quality programming to the C16/Plus 4 releasing 25 titles between 1984 and 1987. A few noteworthy games include Auf Wiedersehen Monty, Trailblazer and the 3D arcade game, Gullwing Falcon.

### Tynesoft

Tynesoft delivered ports of Jet Set Willy 1 & 2 for the 16k systems and expanded versions for the 64k Plus 4. They looked identical to the Spectrum and Commodore 64 versions.

### Anirog

Anirog was a multi format publisher that brought numerous classic titles to the 264 series. Many will relate Anirog with Skramble, a conversion of the classic Scramble arcade game. The game retains all the elements of the original, with fast moving enemies and challenging game play. Other great releases include Out On A Limb, based

on the story of Jack and the Beanstalk and Ghost Town, an excellent arcade adventure game with simplistic graphics.

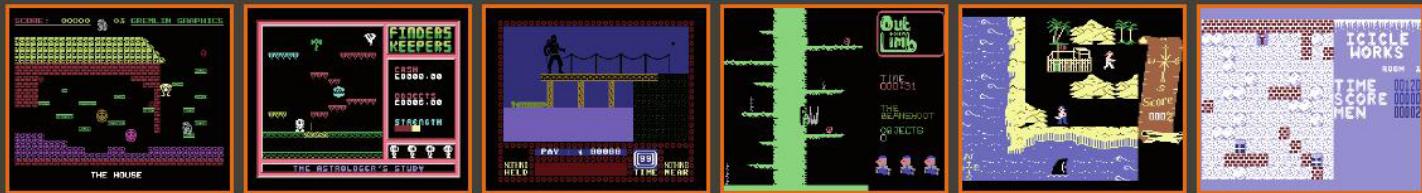
### Kingsoft

Kingsoft was a major player in the 264 world releasing many games and utilities that oozed quality. In my opinion the greatest release from this company was Tom Thumb where the player tries to find the Pharaoh's treasure in a huge labyrinth. How the developers managed to pack this game into 16k is amazing as it includes 178 screens of pure platform adventure joy. Another fantastic title is Winter Events with its amazing backdrops and first

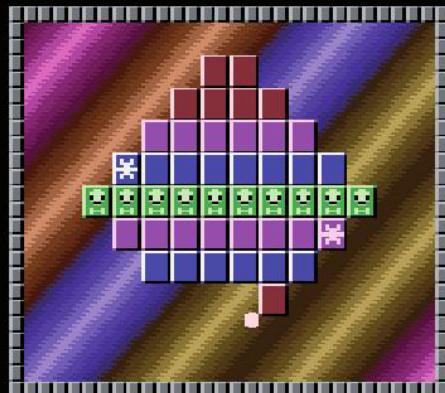
class playability.

### And Finally...

The 264 series saw several game releases taking advantage of the 64k of memory in the Plus 4. One such title was Saboteur, a game that was released on many different 8-bit machines. The C16 version resembles the game Jet Set Willy and contains a small playing area and extremely simplistic characters. The Plus 4 version of this game, on the opposite side of the cassette, is far superior and encapsulates the playability of the C64 and Spectrum versions, with large main characters and pleasant graphical backgrounds.

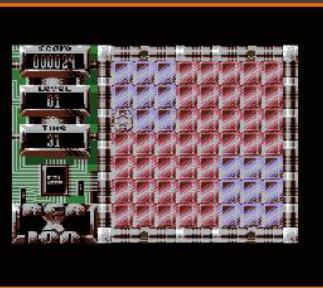


# GAMES & HOMEBREW



### Quadrillion

Score: 000100  
Lives: 3  
Blocks: 33  
Level: 01  
Colored Gem



Many programmers ported C64 titles to the Plus 4 proving that the system was more than capable of running these games. To provide you with an insight into the homebrew and conversions that have been made for the 264 series here is a brief summary of some of the titles that are available:

### Laser Squad +4

Laser Squad +4 is another successful conversion by Attila Tanács written in 1991. This superb two player, turn based, arcade game is virtually identical to the C64 version.

### Supremacy

Supremacy is the classic god/strategic space game that was originally released on the C64, Atari ST and Amiga. The Plus 4 version was coded by Attila Tanács and maintains the quality of the commercial versions of the game. Artificial intelligence of your opponents is outstanding, giving a truly well rounded game that has you hooked to your television set for hours.

### Quadrillion

Quadrillion was programmed by Csaba (Csaba Pankaczy) and was

entered into a Mini Game Competition, up against games written for the Spectrum, C64, NES and many more. It came in at a respectful second place. In essence this is a highly addictive puzzle game that is beautiful to watch and a pleasure to play.

### Elite +4

Elite +4 is a conversion of the classic space trading game that took the 8-bit scene by storm. The 264 version holds its own against the other versions, providing smooth vector graphics and fast paced gameplay. It was ported in

1989 by András Szigethy and was an immediate hit with the community.

### Reaxion

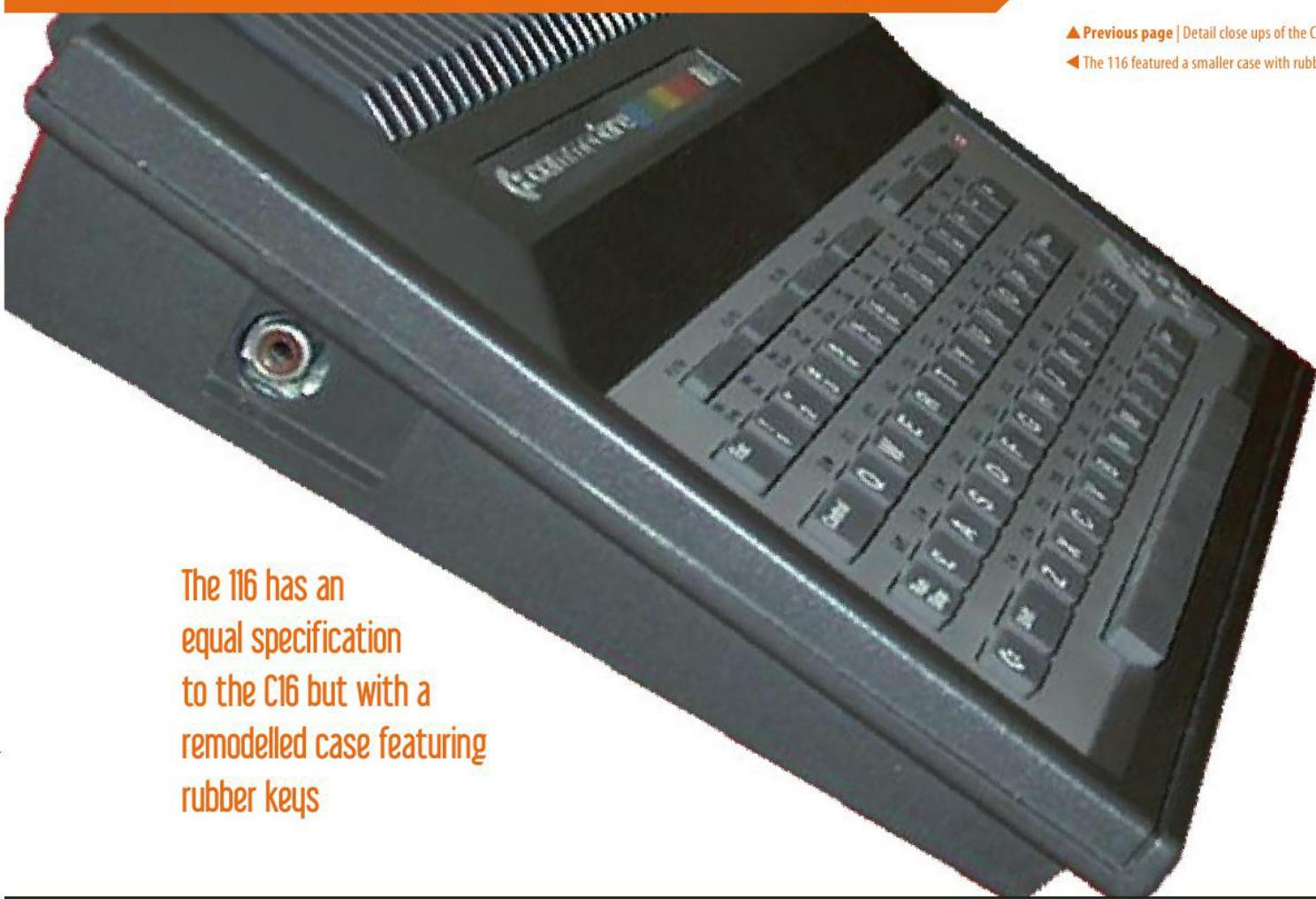
In 2005 TMR (Jason Kelk), who is still an active coder on various systems, wrote Reaxion - a very unusual and fun logic puzzle game in which you have to save the planet from a huge nuclear explosion.

With 99 levels there is entertainment, joy and frustration to be had with this game.

### HOMEBREW SCENE

Homebrew releases play an extremely important part in the 264 scene as these software titles take what the commercial titles gave us and add further features and enhancements.

# THE HARDWARE



The 116 has an equal specification to the C16 but with a remodelled case featuring rubber keys

## 264 SERIES SCENE

### Emulation

There have been 264 series emulators for the various retro and modern systems, the first being A4 for the Amiga by Thomas König, released in 1994. Mike Dailly (the father of Lemmings) released a DOS based emulator called Minus 4 that was also converted into JAVA. The most compatible emulator for the 264 series is the amusingly named YAPE (Yet another Plus4 Emulator) programmed by the talented Attila Grósz. As well as fully emulating the 264 series hardware this emulator was the first to offer an NTSC option. It also provides support for the FLI (flexible line interpretation) function which enhances the systems ability to display 128 colours on screen at the same time. In recent times, scene members have taken advantage of the FLI function to display some amazing images on this machine. The most recent emulator for the 264 series is a hybrid of YAPE for the Pocket PC, again written by Attila Grósz and officially licensed by Commodore.

### C16 Upgrades

Throughout the nineties the scene was extremely active with hardware developers producing some fantastic upgrades for the 264 series.

Christian Schäffner was one of the most successful, producing upgrades that included the famous SID cartridge which enhanced the sound of the 264 series computers to the same quality of the C64. This enabled the scene programmers to produce some outstanding technical demos that showed off what the machine was truly capable of. Other upgrades that Christian released included a 256kb memory upgrade, EPROM burners and printer ports. These expanded the usability of the 264 series to challenge the technical specifications of the C64.

In 2005 Maurice Randall of Cmdkey announced development of his famous Jiffy DOS for the 264 series. Jiffy DOS is disk based operating system which greatly enhances the speed of the Commodore disk drives and provides extra commands to increase efficiency. This is a very exciting development for the 264 series and is expected to become available later in the year.

▲ Previous page | Detail close ups of the C16  
► The 116 featured a smaller case with rubber keys



▲ One of the more 'family friendly' pictures demonstrating the superb graphical capabilities of the machines.

Scene members have taken advantage of the FLI function to display some amazing images on this machine

1. 2x 8 pin joystick ports
2. Memory expansion port
3. TV connector (left side)
4. Video interface
5. Serial interface
6. 8 pin cassette port
7. Power input



▲ The rear of the 116 showing its ports

▼ The 116 had 65 keys, including those rather nifty cursor keys



▲ The same case was incorporated into the design of the higher spec Plus 4



#### Web Presence

The future for the 264 series is very bright with plenty of homebrew enthusiasts still excited about the system. In 1999 Mike Legg (Lando) created his very own Plus 4 web page; many people will know this as Plus 4 World and it has become the greatest repository for the Plus 4.

In 2004 Commodore16.com was created by myself, as the Commodore 16 was my first computer and I have always held it close to my heart. Over time the site has evolved into a hardware shop and busy forum for fans of the system to enjoy. In 2004 Jurek Dudek joined the team at Commodore16.com as our resident engineer, who now manufactures the X1541 transfer cables and other add-ons to enhance the 264 series. Shortly, a new SID card will be back in production and will include a 256kb memory expansion. One aspect of the site that we are extremely proud of is the magazine listings section, where one of our dedicated moderators has typed in listings from known magazines for everyone to enjoy.

If you enjoyed reading about the infamous 264 series and want to learn more or become involved in the scene, you can read up about developments on the following websites:

#### Commodore16.com

[www.commodore16.com](http://www.commodore16.com)

#### Plus4 World

<http://plus4.emucamp.com>

#### Home of YAPE

<http://yape.homeserver.hu>

#### American 264 series site

[www.cbm264.com](http://www.cbm264.com)

#### Hardware and Jiffy DOS

<http://cmdrkey.com>

*Many thanks to Chris Snowden of Commodore16.com for the images and article.*

## SPEC SHEET

#### Specifications

Commodore 16  
404 x 216 x 75mm  
1500g  
MOS Technology 7501  
0.89-1.76MHz

#### Memory

A total of 16Kbytes RAM with 12Kbytes available for user programs. 32Kbytes of ROM includes the OS and BASIC interpreter

#### Video Display

Text: 25 rows with 40 character positions.  
Graphics: 320x160 pixels, 15 colours & 8 brightness levels, plus black (totalling 121 tones)

#### Interfaces

2x 8 pin joystick ports, memory expansion port, TV connector, video interface, serial interface, 8 pin cassette port

#### Operating System

Commodore BASIC V3.5 - in ROM

#### Keyboard

QWERTY layout with 66 keys including seven programmable function keys and a help key.



# GAME BOY LIGHT

**The Game Boy has been a cultural phenomenon for over 15 years and has been as successful for Nintendo as the Walkman range has been for Sony.**

Throughout its colourful and interesting life, this amazing little handheld has gone through many technological upgrades and innovations ranging from the iconic monochrome original to the current colour dual screen marvel that is the DS. Unfortunately, one variation of this multi-million selling games system did not make it out of Japan. Billy Withers sheds some light on this little known member of the Game Boy family...

#### Making Light of It

The limited edition Game Boy Light was released in 1997 and is powered by 2 'AA' batteries that provide over 12 hours of playing time with the light activated and over 20 with it switched off - just a fraction more than the DS can manage nowadays with its rechargeable battery. It is also the only Game Boy model that does not have a flat, flush back end as the protective battery lid is curved to allow room for the bigger power cells.

In terms of its size, there is more of a resemblance to the Game Boy Color than the Pocket. The screen is the only

real similarity between the two monochrome models, being 48mm x 44mm in size and providing a maximum resolution of 160 x 144 pixels.. In line with the minuscule proportions of its lineage, the Game Boy Light is 132mm long, 79mm wide and 22mm deep, weighing in at a featherweight 138g without batteries.

The technical specifications of the Light are similar to that of its monochrome brother, the Game Boy Pocket. The Z80 custom processor running at 4.19 Hz was capable of allowing up to 40 sprites on screen at any time.

The implementation of the built-in light could not be simpler. The traditional ON/OFF switch has one further setting called LIGHT. Move the switch one place to the right and the Game Boy boots up in normal 'ON' mode. Move the switch one click further and the backlight kicks in, lighting up the screen with a pale green glow. The Game Boy Light retains all the recognisable features that adorn its sister models including the NES-style D-Pad (co-incidentally Nintendo own the rights to this style of directional layout), A and B buttons, the select/start buttons, the mono speaker positioned in the lower right corner of the console and the power LED to the left of the screen.

It remains one of the rarest and most sought after Nintendo handhelds to date.

#### What if?

The western world had seen backlit handheld gaming before in the guise of the Sega Game Gear and the Atari Lynx systems; both systems were renowned for their ability to suck up more power than a pensioner's kettle. The Game Boy Light's illuminated display, however, allows lengthy spells of cost effective gaming without having to change the batteries every 2 hours; this would have been a welcome addition to the western world's handheld collection back in the day.

#### Conclusion

Only 1,000 Game Boy Lights were ever made, thus ensuring that it remains one of the rarest and most sought after Nintendo handhelds to date. It may never be as fondly regarded as its original ancestor, but it will be remembered as the first portable games machine to successfully integrate a cost-effective lighting system within its housing. Nintendo have since perfected this system and the soon to be released DS Lite, with its 4 brightness settings, shows just how far we have come in the last 10 years of handheld gaming, but give some thought to the system that was there first.

-Billy Withers

**"Only 1,000 Gameboy Lights were ever made, thus ensuring that it remains one of the rarest and most sought after Nintendo handhelds to date"**

1. DC 3V IN
2. Headphone socket
3. On/Off/Light switch
4. Volume control
5. Extension port
6. D-pad, A, B, Select & Start
7. Cartridge slot
8. 2x'AA' battery compartment



*With only 1000 Gameboy Lights made, every one was a limited edition. There were though a few others made that were just that little bit more special...*

#### **Clear Yellow**

This attractive little machine was only available in Toys 'R' Us stores across Japan and was available throughout 1998 and 1999.

#### **Astro Boy Special Edition**

Astro Boy, or Tetsuwan Atomu as he is known in his native country, was immortalised in this transparent version of the GBL, with the hero situated quite prominently on the front of the handheld. This model was only attainable from Astro Boy creator Osamu Tezuka's World Shop chain, based in Japan, also between 1998 and 1999.

#### **Pikachu Special Edition**

What would a late 90's Nintendo machine be without a Pokemon special edition? The N64 had one, the Gameboy Color had one and, not to be outdone, the GBL would get a Pikachu facelift as well. The LED was surrounded by the little yellow critter and when the power was on, it would look like his cheeks were glowing, much like the Color version. This very limited edition was only attainable from one place, the Tokyo Pokemon Centre, on the 21st of July 1998. Due to the popularity of the show back then, it would be safe to say that they did not last long on the shelves.

#### **Famitsu Special Editions**

Famitsu, as a lot of you will know, is the now infamous Japanese gaming bible, where only a handful of games have ever received a full 40 out of 40 within its hallowed pages (Final Fantasy XII being the latest). What some people may not know is that Famitsu had an exclusive Gameboy Light all of their own, which consisted of a clear body with white buttons instead of the standard black ones. This particular version was available by either mail order or from the only Tokyo Games Show that ran during the handheld's manufacture.

#### **Tezuka Osamu's World Shop Red**

Tezuka was known for other anime characters besides Astro Boy, which led to another World Shop exclusive. The colour for this one was a shade of raspberry red, which was also transparent, and featured a variety of different characters from his repertoire.

#### **Gold and Silver Editions**

The more common of the limited editions were the gold and silver editions. Featuring nothing more than an extravagant paint job, they are shown below for completeness.



Rock stars just can't help themselves. Having conquered the music charts, the next step is to widen their appeal (and their bloated heads) further by gate-crashing other media, such as TV, films, and yes, videogames. Martyn Carroll looks at the many misguided attempts to marry good ol' rock 'n' roll with gaming

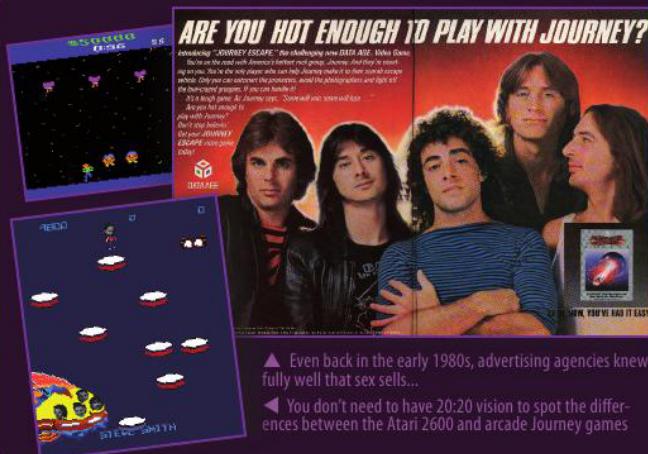
In quite literal fashion our journey begins with Journey. You surely remember this US rock band? You might not have owned one of their albums, but you've no doubt heard at least one of their tunes – probably *Don't Stop Believin'* – on that soft rock collection you purchased from a motorway service station in a moment of weakness. Over in the States Journey were huge during the early 80s, with their 1981 *Escape* album going nine times platinum. So it's perhaps not surprising that they were the first band to be miniaturised, *Innerspace*-style, and blasted into a videogame cartridge.

The game was *Journey Escape* for the Atari 2600, and the guilty party behind this unholy union was Data Age. Licensed videogames were something of a new phenomenon, especially on the 2600, where carts based on *The Empire Strikes Back* and *Raiders of the Lost Ark* had done mega-business. Data Age wanted a piece of the pie and reportedly stumped up a serious sum to sign the band, before spending an equally exorbitant amount on advertising the game. However, Data Age was obviously rubbing its hands together in such glee that it completely forgot to create anything remotely resembling a game.

"You're on the road with America's hottest rock group," ran the ad. "You're the only player who can help Journey make it to their scarab escape vehicle. Only you can outsmart the promoters, avoid the photographers and fight off the love-crazed groupies..." Despite the fact that the boys were on the road, riding the wave as one of the top rock acts in the country, we're led to believe that the last thing Journey wanted to see after a sell-out gig was a sweaty throng of sex-crazed female fans. Still, a job's a job, and yours was to guide each of the five band members from the stage door to their vehicle, dodging the aforementioned 'threats' on the way. Featuring awful graphics and repetitive play, the game did at least feature a passable rendition of *Don't Stop Believin'*, which was something of a surprise considering the primitive hardware.

Having jizzed away so much money signing the band and promoting the game, only to see the game miserably

# Rock Games



▲ Even back in the early 1980s, advertising agencies knew fully well that sex sells...

◀ You don't need to have 20:20 vision to spot the differences between the Atari 2600 and arcade Journey games



▲ Shaky shows compassion for the player's poor sense of bat/car interaction

▼ The Frankie game came with a special 15-minute live version of Relax recorded on the other side of the tape



fail, a stony-broke Data Age desperately sold the rights to Bally Midway. Having enjoyed success with its multi-part Tron game, the arcade company concocted a bizarre compendium coin-op, this time based around the band's 1983 album, *Frontiers*. The story goes that the band has somehow lost its instruments in the depths of space (they really were going out on a limb to avoid those love-crazed groupies), and you must venture into the unknown to get them back. Unlike the 2600 game, each band member had their own game, based on popular titles of the day like Galaxian, Scramble and Donkey Kong. The results were interesting, enjoyable even, but the most memorable thing about the game was that it actually featured the band's digitised faces stuck on tiny stick bodies. The cabinet was also fairly unique in that it housed a cassette player which pumped out real Journey music during a 'live concert' bonus round! It was almost as if the band were crammed inside the cab, playing just for you...

If that had indeed been the case they would probably still be trapped in there now, banging miserably on the plywood interior, as punters gave the game a wide birth. The Journey arcade game disappeared without a trace, and with it the prospect of future rock-vid-egame nuptials.

## Shaking all over

Over in the UK, meanwhile, the charts were being rocked by one Shakin' Stevens. You've got to respect Shaky, and that's not a sentence I thought I'd ever commit to print. He deserves respect because he saw the appeal of 'retro' before many in the record industry (Jive Bunny, Levi's Ad executives etc.) by releasing cod 60s rock 'n' roll songs in the 80s. He looked back, yes, but one eye looked forward to the exciting new world of computers and videogames.

Seeing the potential marketing opportunities of endorsing his own compu-

ter game, Shaky starred in his very own title – *The Shaky Game*. But rather than go to all the trouble and expense of creating and releasing a standalone game, Shaky sneaked a Spectrum game onto the cassette version of his 1983 album, *The Bop Won't Stop*. So it was a freebie, but that's no reason to forgive him.

Beginning with an introduction from the man himself, the game cleverly incorporated references to his lyrics. "Hi, I'm Shaky!" it began, just in case you were in any doubt. "It's late, close to midnight" he says, setting the scene and slowly building atmosphere. "You have to help me reach this ole house of vampires before my fuel runs out. Watch out for the flying bats – they will drive you crazy!" he jokes, with a pun that fails to break the tension. "If you reach the house quickly you might win something. Do your best – give me your heart tonight." It seems that even in the witching hour, Shaky still tries it on, which once again is a reason to respect the aging rocker.

To recap then, the player has to drive around a maze to the 'ole house', finding the quickest route possible to save fuel (Shaky, even in those days, was aware of environmental issues), while avoiding bats. Written in BASIC, *The Shaky Game* wasn't exactly what you'd call survival horror, although playing it was a pretty horrific experience. The planned sequel, a celebrity wrestling match between Shaky and Richard Madeley, is currently stuck in development hell.

Shaky wasn't the only pop icon to hit the Spectrum scene. Being named after a pair of pancy French detectives from the pancy *Tin Tin* stories, it stood to reason that pancy new wave popsters The Thompson Twins would star in their very own pancy text adventure game. *The Thompson Twins Adventure* came on a flexi-disc and was given away with Computer & Video Games magazine.

The adventure began with the floppy-haired threesome on a beach with exits north, south, east and west. Sadly, telling the Twins to 'go west'

didn't see them bump into Peter Cox or Richard Drummie, but with further exploration they would find such delights as a jar, a newspaper and a kite, as well as finding themselves up a tree. Those with the patience of a coma victim could no doubt spend hours typing in commands and exploring sandy beaches and forests, trying to find the 'Doctor', but inevitably most would end up tapping in obscenities instead. Funnily enough, if you sent the Twins north from the starting position they'd drown in the sea. Wishful thinking maybe?

Former punks The Stranglers were another band who released a text adventure for the Spectrum. Appearing on the band's 1984 album, *Aural Sculpture*, and written by keyboardist Dave Greenfield, *Aural Quest* placed you in the shoes of The Stranglers tour manager, and saw you collecting parts of a giant ear. Anyone expecting to chuck tellys out of hotel windows, drive cars into swimming pools, or even secure some Golden Brown for the band, would be seriously disappointed by this sedate affair.

Somewhere more daring, but no less odd, was Ocean's *Frankie Goes to Hollywood* game. Videogames aren't well known for their representation of minorities, especially when it comes to sexuality. You'd be forgiven for thinking that *Spyro the Dragon* was the world's first gay gaming icon. Not so; *Frankie Goes to Hollywood*, leaders of the 80s pink pop explosion, stepped into the games arena in 1985, thanks to licensing kings Ocean Software.

Surprisingly the game didn't involve leather chaps or nipple clamps. It was a rather surreal adventure game in which the player had to become a 'real' person, thereby escaping everyday life and finding peace in



▼ The Thompson Twins game and was given away with the October 1984 issue of C&VG



## Worship the devil!

Led Zeppelin, Judas Priest and even The Beatles have all been accused of sneaking hidden messages into their songs. You know the sort of thing – play certain tracks backwards and you're supposedly told to sell your soul to Satan or something equally stupid.

Back in the 80s, some bands actually implemented this idea by including small programs on their albums. Inner City Unit did just this on their 1984 New Anatomy album, but there was nothing vaguely satanic about it. Instead, the program displayed a band history and tour dates. More ambitious was a program included on Pete Shelly's XL-1 album which displayed the song lyrics and simple graphics when played in time with the music. Much more contentious is a short program hidden on the album Everybody Loves Urusei Yatsura by Scottish band Urusei Yatsura. Somebody call the tabloids, because when you load the program up in a Speccy, the screen turns blood red and the words "HAIL SATAN – Lick His Cloven Hoof" flash up on the screen before your very eyes! Seeing as the program is called Judas Priest Satanic Message No.3, I'm guessing they weren't entirely serious.

For more information on hidden audio code, see the Vinyl Code feature located at [www.kempa.com](http://www.kempa.com).

HAIL  
SATAN

Lick His Cloven Hoof

▲ Judas Priest Satanic Message No.3

Lemmy wipes the dance floor with ravers, country fans, karaoke singers and anyone else foolish enough to question the virtues of hard rock

the 'Pleasuredome'.

You became 'real' by earning pleasure points from doing nice things, such as giving a cat some milk. Honestly, there couldn't have been a more friendly game. Of more interest, and slightly more archaic, were the arcade mini-games found inside the Pleasuredome (which were accessed by stepping through TVs and computer screens). Once inside you got to control President Reagan's head and spit in Gorbachev's face. Like you do. You also had to defend the city of Liverpool from a wave of German bombers.

Frankie stands out as one of the most bizarre games ever released, which is perhaps befitting such an odd license. Half the time is spent trying to work out exactly what the hell is going on, and neither the band nor the eponymous Frankie make an appearance. Thankfully Ocean had the foresight to include an audio cassette which could be synched up to play along with the game, giving a spoken tutorial as the player explored their inner sexuality... sorry, a Liverpudlian suburb.

## Motorhead-ache

Let's fast forward several years to 1992 and the release of Motorhead on the ST and Amiga. The guys behind the game were obviously crying into their beer over the dominance of dance music in the charts, presumably leading to an alcohol-fuelled fantasy which saw rock demigod Lemmy beat some sense into a jilted generation. This fantasy quickly became a scrolling beat-em-up in which Lemmy wipes the dance floor with ravers, country fans, karaoke singers and anyone else foolish enough to question the virtues of hard rock.

Featuring great cartoon graphics and packed with humour, Motorhead

is easily the best game to be found in this feature (which isn't really saying much). How much input Lemmy had is unknown, but I can only assume that he issued a grunt of approval – particularly as his character downs bottles of whisky to top up his health.

Meanwhile over in the States, EA was busy doing a deal with notorious rockers Motley Crue. Over the years many acts have lent their names to pinball machines, and pinball videogames have always been popular, so it stood to reason that a celebrity endorsed pinball videogame would be a winner. As so Crue Ball was released for the Mega Drive, and it wasn't half as bad as it sounds. Featuring renditions of 'classic' Motley Crue tracks such as Dr. Feelgood, Home Sweet Home and Live Wire, Crue Ball was your everyday pinball game, except with the added hairspray and skulls that came with the territory of the musical man-whores. The intention was to hit various targets on screens one and two, which opened up the third tier where the real scoring could begin. With the third screen completed, the player gained access to the volume control, and in the true spirit of rock 'n' roll, was able to crank it up to 11... although to be honest you could just turn up the volume on your TV.

In 1994 Pacific Frameworks put a proposal together for a Jaguar game that could have single-handedly changed the fortunes of the ailing machine. Had it been made that it. The Jaguar is best remembered for the excellent Aliens Versus Predator, but had Pacific not been ignorant to the power of Aussie rockers AC/DC, the story may have been very different. Ladies and gentlemen, please be upstanding for the best game that never was – AC/DC: Defenders of Metal.

The basic premise was not too far removed from the Motorhead game.

◀ Lemmy drops by the rave club and confronts some smiley happy people



► This mocked-up screenshot (featuring characters from Streets of Rage 3), glimpses at what Defenders of Metal might have been



## A Mean Pinball

Unlike the videogames mentioned in the main feature, pinball tables with rock star mugs on them haven't all been novelty efforts. Elton John's Captain Fantastic and the Brown Dirt Cowboy is considered to be one of the most challenging tables ever made.

A table based on The Who's Tommy rock opera is challenging in a different

way, as at certain points during play a set of fans descend over the flippers, obscuring the player's view to simulate being blind. The Guns 'n' Roses pinball table, released at the height of their Appetite for Destruction phase, is just noticeable for the fact that Slash contributed special guitar licks for the soundtrack.



The band, collectively and as individuals, would fight their way to musical supremacy by battling the best of each musical genre, taking on representatives from disco, hip-hop, pop, jazz, and country, until they had proved themselves as the rampaging, hard-rocking, crown rulers of music. The thought of a digitised Angus Young in his school boy uniform versus MC Hammer and his giant pants, battling each other for world domination is almost too much to comprehend. Or maybe Brian Johnson, sporting his trademark flat cap, facing off against Bruce Springsteen with his rubbish ripped denim, swinging microphones like deadly medieval knights in a true fight for the right to ROCK is sadly something we'll never experience. They say that some of the best games are never actually made, which was surely the case when a big, fat, suited executive stamped the Defenders of Metal proposal with a huge rubber rejected stamp.

## Walk that way

We all know that since the Al-Qaeda attacks the world has changed. Governments are now more alert than ever, and each ruling nation has plans for terrorist assaults including such terrible scenarios as chemical attacks, dirty bombs, hijacked planes and suicide bombers. But there's one frightening situation that I suspect no nation has adequately prepared for. What if aging US rockers Aerosmith were kidnapped?

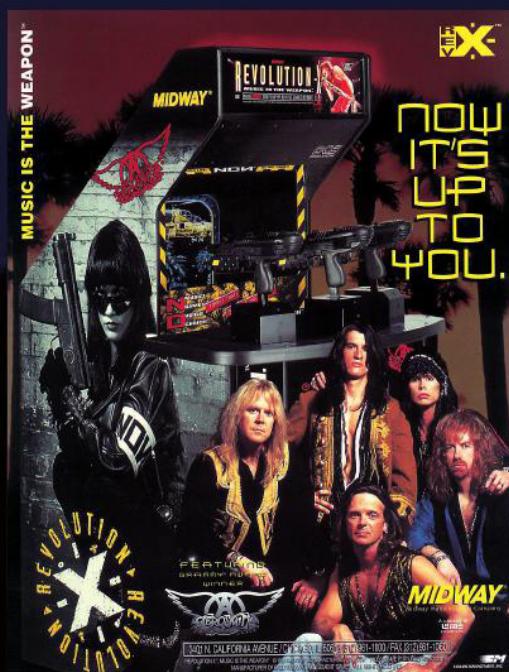
Luckily, Midway approached this controversial subject in 1994 with Revolution X. This infamous arcade game introduced the New Order Nation, an organisation whose goal was to enslave 'the kids' by suppressing all forms of entertainment. Of course in 1994, when NON was looking to kidnap leading figures from the world of music, it stood to reason they'd snatch leotard-rockers Aerosmith, who were having something of a resurgence at the time with their Get a Grip album. I can only imagine the kidnappers used up an entire roll of duct tape on Steven Tyler's gigantic mouth and famously groping hands.

It was up to the player then to save

Aerosmith and free the world's youth by firing guns loaded with CD ammo ("Music is the weapon", see) at badly digitised sprites, all to the accompaniment of such genuine classics as Walk This Way and Toys In the Attic. That's right – Revolution X was a light-gun game, and I'm sure that the publisher, developer, coding team, cabinet maker and the band members themselves would not mind me pointing out that Revolution X is easily the worst light-gun game ever made. And instead of trying to contain this filth, Midway allowed it to seep onto the home console market. Seemingly no-one was safe...

And it's with Revolution X that the curtain falls. Other games followed, including the crazy four-player beat-em-up Wu Tang: Taste the Pain on the PlayStation, and the tenuous FPS Kiss: Psycho Circus on the Dreamcast, but they're too recent to be included here. And besides, Revolution X is a good place to wrap as it proves beyond a doubt that music/videogame crossovers will never, ever work. Bands should stick to what they're good at, rather than desperately trying to appeal to the kids by appearing in a badly implemented, poorly produced, embarrassing effort of a game. Play rock 'n' roll. Play videogames. But don't try and play them together.

**Bands should stick to what they're good at, rather than desperately trying to appeal to the kids...**



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# Retro Fusion



## Welcome to the Arcade

Welcome to the Arcade Section, the area of the magazine that hands you a bag full of 10p's and takes you back to the seaside arcades of yesteryear. In this issue of Retro Fusion Archer Maclean talks us through how he lovingly restored a Missile Command cabinet to its former glory. Archer re-creates the artwork on his cabinets from scratch with specialised equipment and the end-result of his work is absolutely incredible.

Again we go to the back of the arcade and uncover some hidden gaming gems that most games players overlooked, this issue it's the turn of Rollerball and Stoneball.

## Jamma+

[jammaplus.co.uk](http://jammaplus.co.uk)

JAMMA+ is a group of individuals that collect Arcade equipment, machines or PCB's and congregate on the internet via the Jamma+ forum and IRC chat room to discuss everything from playing the games to repairing them. They also have regular meets where they get together to talk tech, play games and drink. Anyone with views or opinions on the arcade collecting scene is welcome at Jamma+.

They have a membership of over 700 and the number is increasing. There can be up to 20 people signed into the IRC channel at any one time which makes for great conversation.

Some members collect machines and PCBs but others may only collect PCBs and there are a lot of members with big collections. New members tend to start with one machine and a couple of PCBs but usually find that it is not enough and end up buying more; it really is a very addictive hobby. As Julian, AKA Dsyde, of Jamma+ reveals, "I guess you could say there are 3 stages of collecting arcade related items - 1 to 2 cabinets for someone new to the scene, 3-10 cabinets and maybe including dedicated for a more established user, and then 10+ for people who have no control, like me! Another big issue of course is lack of space to store machines, as when collecting you very quickly find out you need to build an extension or have a dedicated games room."

Simulators such as Space Harrier and Outrun are popular. One of the moderators has a Sega R360 sat in his garage that needs 3 phase power. The older machines are much sought after too. Those who know their classics take pride in looking after their Defenders, Space Invaders and Star Wars machines. A recent thread on the forum was dedicated to the restoration of a Juno First cabinet; even though they are called JAMMA they talk about and love machines from any era of arcade.

"Quite simply; if you like arcade, our site is a must," enthuses Julian, "We also pride ourselves on keeping the forum a friendly place. We talk a lot of technical stuff and any new user could very well feel out of place by not understanding topics of conversation. This is why we actively encourage new users to get involved and introduce themselves. Imagine learning to drive for the first time;

everyone has to start somewhere. But it is not just all tech, we talk gaming too."

We asked Julian about future developments for the website: "I think the first thing on my list for the development of the site is to find a sponsor. We can provide ample advertising on the site in return for financial help. The site as it is, is paid for by the members that use it. We have members that have very kindly donated to the site to help with running costs like hosting but we need more funds to finance other things like attendance at exhibitions. I know I have talked about this with members already, but I would dearly love to put on an Arcade show of our own sometime. It's all pie in the sky at the moment, but something worthwhile working towards."

Julian would like to thank the rest of the team - Pinx, Ordy, Outrun, Garfra and ColD - and all the members out there of which there are too many to mention, but whom he considers all great friends. And, one very big thank you to the guys on the site for recently raising £140 for a 4 yr old boy having chemotherapy, so that he could have a Game Boy to while away his time in hospital.

If you're curious about JAMMA and the arcade scene, head on over there and sign up.

Thanks to Julian AKA Dsyde for taking the time to fill us in on Jamma+.





# ARCHER MACLEAN'S MISSILE COMMAND

A few years ago I got a phone call from a chap called Tony Temple asking if I could help fix a dead monitor in his ageing 1980 Defender arcade cab. A few days later he visited my 'restoration lab' and was amazed to see rooms so full of retro arcade junk that his eyes nearly popped out. Turns out we had a common passion for old arcade games, and a few drinks later we were playing my own missile command machine.

I noticed that Tony was suspiciously good at it, so good in fact that he beat my all-time personal best-ever score three times over, at the first attempt. We chatted some more. Turns out he's something of a champion MC player from decades back. Some time later we agreed a deal whereby I would restore a totally knackered cab I had in storage, and make it so good that it would be better than when it came out of the Atari Californian factory back in 1980. However, it was vitally important that the entire machine was all original, as Tony had a desire to try and get his gameplay skills good enough to potentially challenge the World Record which had apparently stood for 20 years or so. I knew this was to be a daunting task, but also one that was achievable due to the number of extreme restorations I had already done for myself.

It might have taken me a year, on and off, and I might have learnt all sorts of skills along the way from how to recreate fantastically hi-res side art, and make new reverse screen bezels, and rebuild all the electronics, BUT... the result was worth it. After some fine tuning, it was eventually delivered, and Tony set about exercising his old MC skills, and practicing day and night for weeks. After ever increasing personal bests with the machine set on tournament mode (no bonuses), he eventually smashed through the World Record on 2nd April 2006, and is now destined for the Guinness Book of Records.

You can read all about this, and dozens of other current Arcade Game new items at the very active Twin Galaxies website:

[www.twingalaxies.com/index.aspx?c=19&id=1295](http://www.twingalaxies.com/index.aspx?c=19&id=1295)

Within this article I will show a small selection of the 100's of detailed photos I took during the restoration. I've omitted most of them because collectively they'd be a thesis on how to restore cabs, and take up 50 pages, and bore everyone silly bar the die hard restorers out there!

I got the original machine as part of a trade with another collector, for a couple of other cabs. It was delivered and was supposed to be original but more or less working, maybe, sort of. As you can see from the pictures (1,2,3,4) it was pretty much trashed, the controls were rusted solid, the side art was scratched to hell, and the monitor had been toasted long ago, and there was plenty of fag butts, dust, spiders, dead insects and small bits of dark rice otherwise known as mouse shits. Great.

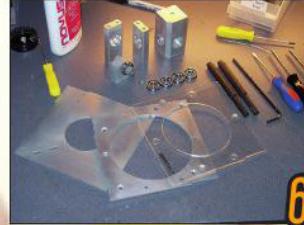
I stripped the entire machine top to bottom, recording everything with a digital camera. This is always handy to have around so you can go back and check what went where later on. I was planning on a complete restoration of every square inch, so there was little point in partial jobs. The whole shell was sanded inside and out, and all dings prepared with filler, and any rot and weak areas replaced with newly fabricated bits.

Every item removed was individually stripped down to its component parts. The picture (5) shows the power supply before and after. I took it down to the bare metal chassis and shot blasted it clean, before re-coating, and re-building to correct spec, using the original schematics and my photos throughout.

The monitor had to be replaced with an identical 1980 spec Wells Gardner one, which they still make to this day. The control panel was shot blasted clean and covered with a new overlay imported from the USA (6). The track ball was totally stripped and rebuilt using new original spec rollers and bearings. A new glass screen was cut to size, and I printed up some vinyl letters identical to the original game reverse screen bezel (7). The coin mechanisms were stripped and rebuilt. I even cleaned all the wires in the loom.

The giant MC mother board was faulty but in good physical shape. It might be covered in ancient TTL chips, all driven by a 1 MHz 6502, but it almost worked. The biggest problem was sourcing a couple of RAM chips. Mainly because they were primitive 1,024 x 1 bit RAM types.

A lot of the above can take days and days to do. But for some masochistic reason I enjoy it!



Can our man Archer restore this grotty, rusting mess of a cab?

# ARCHER MACLEAN'S MISSILE COMMAND

## **Side Art Better Than The Original**

One of the most obvious areas to repair was the art on both sides of the machine. I spent days scanning the original, colour matching, editing it all back into a huge 500mb file done at 300 DPI, and eventually printed on a precise digital printer (8). The prints were taken off site and coated in a scuff proof polymer, and adhesive applied to the reverse. Before applying I put down a sheet of double weight lining paper from a giant roll. I did this to help minimise any surface imperfections showing through as minor ridges. To get around the slightly increase in side thickness I used T-molding trim that was 1mm wider than normal. This gives a really nice clean feel to the edges.

## **Attention to Detail**

I wanted to keep it authentic inside the finished cab (9) so I reproduced the original back door sheet that was supplied by Atari with all new machines. These days it is usually missing, having been ripped off years ago.

## **Nice clean coin mechanisms**

I don't usually like doing coin mechs (10), because most people just want the machine on free play, and besides, it's an area of the cab hidden from view 99% of the time. Authenticity was the name of the game here, so a full refurb gives us a shiny new coin mech.

## **Perfectionism In Action**

To keep with the originality theme I also reproduced the Atari serial number labels and warning stickers (11). The entire rear of the machine was coated with a black textured vinyl, mainly for cosmetic appearance, as painting the original rear wood black wouldn't look too good.

## **IKEA, Maclean-style**

Shows all the restored parts prior to rebuilding the whole machine (12). A sort of DIY Missile Command kit!

## **Custom Coin Slot**

To top it all off, I included this custom feature to put a smile on Tony's face (13).



8



9



10



11



12



13

◀ **The final result** | Due to the intense handmade detail I put into this, it's probably better than the mass produced cabs that rolled off the Atari production line back in 1980.



# COLLECTORS' INFORMATION

There are 3 other versions of Missile Command :- the Mini, the Cocktail, and the uber-rare cockpit version. Both the Mini and 2 player cocktail table use a tiny trackball which just isn't the same as the huge 'n' heavy inertial one in the normal upright. But the rarest and most coveted Missile Command machine is without a doubt the giant cockpit version with its massive 26 inch screen above you and multiple speakers all around the cab to make sure you really feel the action. But there's only about 12 known to exist so don't expect to see one down the local chippy. After years of searching, I eventually found one and it's now a cherished part of my collection, even though it does take up a shed load of space - literally. There were also slightly different versions of these machines made under license by SEGA, but they are hard to find outside of Japan.

Original factory records show that 14,000 MC uprights were made, along with 3,000 cocktails, and 1,500 minis, and just 100 sit-downs. To put those into perspective, Atari's

biggest seller was Asteroids at a claimed 48,000, followed by Centipede 46,000, Tempest 27,000 and Pole Position at 17,000.

Overall, I believe Atari produced over 400,000 arcade machines generating retail revenue of approx \$750 million in cab sales alone from 1975 through to 1983 or so. In today's money that is the equivalent of about \$2.5 billion. You can probably double that for the consumer electronics and home console machines they produced. So whilst the Playstations and Xboxs of today are big markets, people need to remember that long ago there was once a giant empire that did it all before.

There was also a group of people so influenced by that golden era of classic games that they have become a dedicated group of collectors like myself who still have a passion for them, which is why we want to restore and preserve them. And some of us were influenced enough to want to actually design and program a few games too.

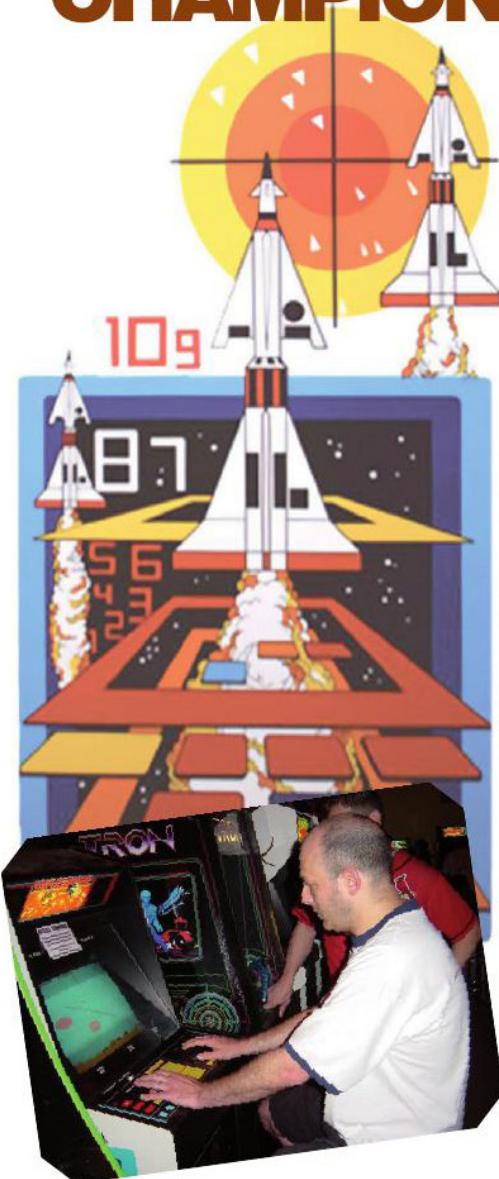


► Upright cabinet  
Archer's own lovingly restored upright cabinet.



► Cockpit cabinet  
Only 100 units of this ultra-rare beast were manufactured and it can house a small family.

## TONY TEMPLE MISSILE COMMAND CHAMPION



### Why did you choose Missile Command as your chosen game to specialise in?

Pure chance really. It was the game that arrived at the local cafe in my town when I was fourteen. It could have been anything I suppose. That said, the game really captivated me - the whole subject matter itself was very harrowing back in those days. I was morbidly fascinated with the game from the start, so kept playing.

### What kind of preparation did you go through prior to beating the work record?

No real preparation as such, just lots of practice. In the final run up to breaking the record I was playing at least two hours a day. Because the controls are so precise, they vary from machine to machine. You need to be able to map the specific sensitivity of the controls you're using until they become second nature. Staying sharp is key.

### Tell us about when you broke the world record - where were you? How long did it take? How was it verified? What kind of cabinet? The score? The previous record - what was it? How many waves did you go through? Did you have any blisters??!!

The record was 1.6 million points on tournament settings (6 cities, no bonus cities). This score has stood for well over twenty years, and there has been some question as to whether it was achievable in the first place. I broke the record on 9th March 2006 on my upright MC machine at home with a score of 1.9 million. The game was played at about midnight and took 1 hour 24 minutes. I got through approximately 175 waves. To verify the score, the whole game had to be videotaped from start to finish and sent off to Twin Galaxies in America. The score is being acknowledged in this year's Guinness Book Of Records.

### Where does Archer fit into the story?

I was at Archer's house to sort out a dead monitor from my Defender upright, and we got onto talking about the games we played as kids. I mentioned Missile Command, and the rest is history as they say. The machine was a mess when I first saw it - it was covered in concrete splashes, insect nests and dust! The trackball was rusted solid, and nothing worked at all. Archer worked solidly for well over a year on the project. The finished result is nothing short of amazing - the machine still looks like it rolled off the Atari production line yesterday.

### What are your views on emulation?

I think it's vitally important. As a "Museum" of gaming's golden age, it's incredible. People are very clever to be able to do that sort of thing. That said, emulation can't replicate the finely tuned hardware. There are huge differences between leaf switches and micro switches for example. Go Play Robotron on a Mame Cab, then play on an original cabinet - they are very different in feel. Games like Missile Command, Robotron, Battlezone, Defender all should be played on original hardware to get the full effect, and besides you don't get a giant trackball on a mame setup. But as a starting point, emulation is useful.

### What does your better half/family think about yourfeat?

My wife has been great and very understanding I'm 37 now and we have a young son, so time is at a premium for us both, so to have a partner who allowed me to play regularly until I got the record was great. She's making me pay now though! My cabs sit in my lounge so it's not like you can throw a blanket over them and pretend they're not there. She jokes about getting rid of them, but I think she thinks they're a pretty cool thing to own.

### Do you intend to go for any other world records or even try to break your own Missile Command Record?

Well I'd like to break 2 million points this year on Missile Command tournament settings. I'm also planning to break the current world record on a game called Super Missile Attack, which is an expansion to the original Missile Command game released in the 80's. I should have that nailed within the next two months or so.

### What is your view on Twin Galaxies?

They are the nicest bunch of people you could possibly meet - Walter Day is an absolute legend. They give their time for nothing to support this whole thing for the likes of you and I and have been doing so for well over twenty years. I think their independence could be questioned at times, but in the absence of anything else that comes close, it's the recognised home of videogame high scores on both old arcade machines and up to date consoles. They deserve our support for keeping interest in the classics alive.

A huge thanks to Tony and Archer for their input. More next issue...

# ROLLER GAMES

More of an inspiration to the video game would be the classic 1975 designer sport movie, Rollerball, although the boids at Konami made one slight alteration to the gameplay when they re-imagined it; they removed the ball...

This was a franchise of an American TV show of the same name which consisted of a theatrical update on the Roller Derby scene, in much the same vein as American wrestling or Gladiators. Roller Games enjoyed brief popularity before the producers went bust.

More of an inspiration to the video game would be the classic 1975 designer sport movie, Rollerball, although the boids at Konami made one slight alteration to the gameplay when they re-imagined it; they removed the ball. However, when it comes down to it and you take another look at the crowning moment in James Caan's illustrious career, the ball itself actually had sod all to do with the savage, high-speed human circus that immortalised the film – it was the concept of sporting entertainment free from rules or guilt, where the viewer was actually encouraged to take shameful delight in the violence and destruction that underlies much of the competitive genres we have enjoyed for hundreds of years.

And so, Roller Games cuts unabashedly (and quite literally) to the chase. You and your team must skate around the track amidst a flurry of aggressors to finish with a higher score than a specific player on the opposing side. There is no ambiguity about how that score is attained; beat up the rival players, plain and simple.

Utilising a side on view, as if you were watching the game from the central 'pen' where the teams congregate in Rollerball, the mayhem comes thick and fast as the opposition quickly close in on your character with the sole intention of knocking you from your wheels. Initially, one of your team mates will take you by the wrist and catapult you toward a slip track with the main opposing character in hot pursuit. Alternate pounding of the two buttons, à la Track & Field, determines your speed as you skate up the high cambered turn and prepare for a fast approaching jump ramp. The player to make it around the turn and jump the furthest begins the bout with an extra point, which can and does make all the difference.

After the speed skating opening, the game quickly descends into breakneck fist-cuffs as the teams arrive to help out their cap-

tains. Although your main goal is defeating a specific, equally matched player from the rival side (who throttles alongside you in contest with your skaters) points are better won by the skilful thwarting of more immediate threats, such as dealing with the rabid assailants desperate to loose your teeth with a well placed rollerboot. Leave the opposing player to your capable team mates and concentrate on the difficulties at hand.

Here the game slides toward more of a beat'em up than a sports title, although the racing environment somehow prevents the game from feeling as if it has switched genres in the middle of a credit, much to its good repute. This also bestows a very unique style on the game, making it at once memorable and yet difficult to categorise; the benchmark of a genuine classic. There is a plethora of fighting moves, enough to rival the most sincere brawler, with many techniques that would seem ridiculous to any other game in which the fights remained stationary. Jumping on the shoulders of opponents, swiping their skates from under them or swinging them by wrist and ankle all appear quite feasible, and bring home the unforgiving danger of such high-speed activities.

Too early for any form of 3D interference, the graphics of Roller Games consist of hand drawn sprites – a nice touch being that the ancillary team members are all, more or less, unique characters rather than a repeated sprite with a different palette – and excellent use of a technology similar to Nintendo's Mode 7. The track, which flies past at such a speed that any successful Rollers will never be granted time to admire it, makes use of a simple scaleable and rotatable texture mapped plane, adding a pseudo 3D perspective to the track which serves the purpose beautifully without interfering with the necessary speed of the game.

Hectic, violent, high-octane fun without the broken bones of real Roller Derby, this is a definite unsung hero of the early 90s.

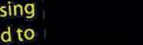


## Back o' the Arcade

You know, I never really got onboard with the concept of sport. It's always been like whiskey to me; I want to enjoy it, as I hear great things about it and lots of people derive pleasure from it (and, ironically, it also has a habit of turning people violent, but let's leave the comparison there), but no matter how much I persevere I just can't get a taste for it. Except for Speedball, I'd be good at that.

To me, sport can accurately be summarised as a load of blokes chasing a ball around a field. I know that's not entirely fair. I understand lots of women are also involved these days, and are just as good as the men when it comes to chasing after that elusive ball like an obedient poodle.

Naturally, my encompassing disinterest in a thick slice of the English social pie has also meant I avoid sports related video games as well, so this issue, I set my goal on seeking out some undiscovered arcade sporting treasures to see if I'd been missing anything over the years and, I'm pleased to say, I think I have.



67%

DEVELOPER : ART &amp; MAGIC YEAR : 1994 IF YOU LIKE THIS, YOU MIGHT ALSO LIKE... Virtua Striker &amp; Hit the Ice

# STONEBALL



Art & Magic was founded with the intention of bringing new technological concepts to the arcade floor, and right from the outset it apparently decided that sports simulations were the best way to exemplify such abilities. Its first coin-op, just prior to the polygon revolution, was a tennis simulator with the rather unambiguous title of Ultimate Tennis and made excellent use of slick digitised graphics. Although the game under discussion leans a little toward the parody side of sporting titles, it can't be denied that despite a wry comical tilt, cartoony graphics and surreal gameplay, Stone Ball meets the requirements of a competitive physical activity every bit as much as Art & Magic's debut title.

Set in prehistoric times, a group of burley cavemen take time off from being hunted by velociraptors and clubbing potential mates over the head to have a game of 'stone ball'; the antediluvian ancestor of football. With up to four players (two vs. two), the Stone Age soccer stars were equipped with one significant difference to the watered down version people play today: a sturdy club. Were this aspect of sportsmanship reintroduced to the modern game, I think its appeal would escalate significantly, particularly when used in such a dynamic range of applications as the stalwart Stone Ballers manage to find for their convenient cudgels.

Although much of the ball control is done in the traditional method (using the feet), the club is employed in a baseball type fashion when it comes to achieving those deep, penetrating volleys and scoring goals in the generous cave mouths that would one day be replaced by nets. Of course, tackling is given a whole new edge when ball hungry players are thusly armed, and much of the 90 second rounds are spent slogging it out with fellow troglodytes.

The graphics of Stone Ball are not only superbly drawn, but achieve something

If only more modern games could see that hand drawn graphics and computer rendered displays can coexist in beautiful harmony, we retro gamers might venture into the shops more often.

seldom seen in video games; unique style. Compare it to many of your favourite games, and it has to be said that while most have great looking visuals, the art could have come off of a production line. Not so with Stone Ball, which sports (yes, that was a pun – get over it) distinctly individual characteristics. The sprites almost appear to be pencil drawn, with trailing outlines and modish, scribbly details, while the muddy colours are used to full effect by painting the scene with not only a professional, cell shaded Disney-esque lustre but a rich, uncontaminated, pre-civilisation aura that we imagine our planet once proudly boasted.

Stone Ball was born on the transitional line separating sprites and polygons, and like the few titles that were fortunate enough to benefit from such a creative period, it enjoys the best aspects of both worlds. The characters' style would probably suffer even today if they were forced into that irksome third dimension, and although such feats were beyond feasibility twelve years ago, Stone Ball was in a position to enjoy graphics, sound and speed that were finally unencumbered by processing power and memory limitations. The playing field, however, did benefit from being lifted out of the flat world of the digital plane and a subtle, yet supremely well employed polygon was used to place the cave dwelling competitors in a more aesthetic world. If only more modern games could see that hand drawn graphics and computer rendered displays can coexist in beautiful harmony, we retro gamers might venture into the shops more often.

After such a thesaurus rending homily, I'm sorry to say Stone Ball abruptly falls short on longevity. A great game for quarter of an hour, even the sportingly naïve (such as myself) can predict the modest system intelligence enough to remove all difficulties. The limited number of onscreen characters, small playing area and lack of a goalie diminished the overall score by a substantial amount.

Still, definitely a game that demands recognition, it perhaps fits the roll of a sport a little too closely for its own good; it's more fun to watch than it is to play.



More forgotten arcade gems from the pen of Spanner Spencer, next issue...

Time 30

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October

# Welcome to the Retro Section



You have arrived at the Retro section, or the Nostalgia section as I like to affectionately call it. Here you will find articles on iconic items and imagery of your youth. A section where you step back in time and find yourself saying "I had one of those" or "I remember that" and feel a wave of nostalgia flow over you.

To tie in with the footfall, we have the history of Subbuteo - an incredibly frustrating game if your mum wouldn't iron the pitch for you. Other highlights include the definitive article on the Rubik's Cube accompanied by a history of the famous Tonka toy.

# Website of the Month

[www.doyouremember.co.uk](http://www.doyouremember.co.uk)

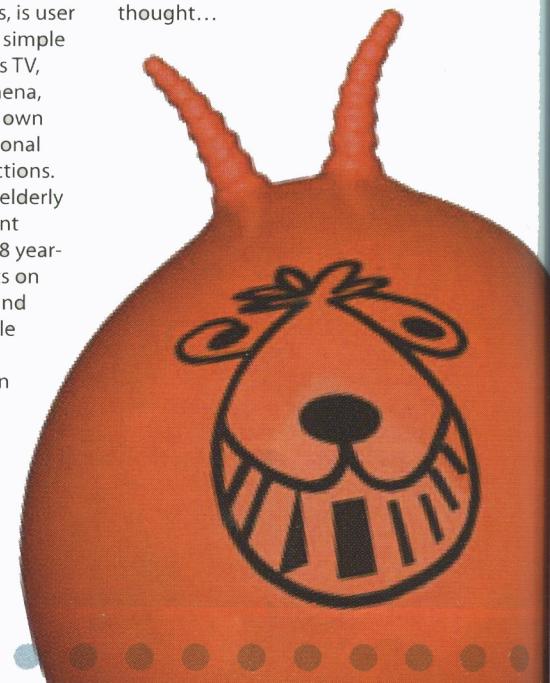
**One of the greatest things about memories is that they're at their best when shared.** Whether it is reminiscing about old C64 games, trying to remember the names of the other Thundercats, or simply seeking confirmation that you're not going mad and that Mork really was in 'Happy Days', the question "do you remember...?" is regularly the opening gambit to some of the most entertaining conversations up and down the land.

Recognising this phenomena, [www.doyouremember.co.uk](http://www.doyouremember.co.uk) decided to take the idea a step further and set up a whole website dedicated to the pursuit of communal nostalgia. The key to DYR's success, and what makes it unique from countless other nostalgia websites, is user participation. Rather than act as a simple directory of 70's, 80's and early 90's TV, films, games and cultural phenomena, visitors are invited to submit their own memories and add their own personal twists on previously listed recollections. As a result, heart-breaking tales of elderly relatives deciding Evel Knievel stunt bikes are not appropriate toys for 8 year-old nieces rub shoulders with hints on the best way to eat Club biscuits and discussions on whether it's possible to complete Jet Set Willy without cheating. (It's not, by the way. Darn you Banyan Tree...).

This community aspect puts the various memories into a real

social context, and gives visitors the warm glow of recognition of their own wasted hours trading Garbage Pail Kids cards, chasing pets with Big Trak and wobbling precariously on Lolo Balls.

The site also boasts an active forum, where users can pick each other's brains about half-remembered TV shows, adverts, songs and the like. Regular giveaways, authoritative reviews, and a host of other nostalgia-themed widgets and games supplement the site still further, but it's the social approach that makes [www.doyouremember.co.uk](http://www.doyouremember.co.uk) so addictive, guaranteeing plenty of lost hours and return visits as you realise you remember rather more than you thought...



It is the world's favourite table football game and has a long and varied history. We go back to its roots to reveal the legacy of...

# Subbuteo

*The Beautiful Game*  
...in Miniature



The name Subbuteo is synonymous with table football; during its long life it has won the hearts of millions. A survey in 2002 indicated that over 90% of 30-something fathers owned and played Subbuteo at some point. The game is simple to play (see How to Play) and, being based on the national sport, is as wonderful to play today as it ever was. From humble beginnings, the institution that is Subbuteo has had varied success over its history. And it all started with a concept born in the 1920s...

## New Footy

Before Subbuteo was even a twinkle in the eye of its creator, William Keeling invented 'New Footy'. The game consisted of cardboard players on hemispherical lead bases, flicked us-

ing your fingers with the aim of shooting the ball into your opponent's goalmouth. Each playing piece was confined to specific sections of the pitch and they were heavy, making it relatively difficult to flick the players very far.

The game changed very little over the next thirty years and had little competition, until the arrival of our titular conqueror.

## A Legend is Born

Shortly after WWII, Peter Adolph invented, manufactured and distributed his new game, Subbuteo, in 1947. The game was very basic due to the shortage of materials after the war, being sold as an 'assembly outfit' which consisted of a sheet of card players to be cut out, 20 plastic bases, two goalkeeper rods, two card goal nets with wire frames, and a piece of chalk. There was no pitch in this basic set – the chalk was provided for you to draw your own pitch on one of the many surplus army blankets that were available in abundance at the time.

It is more than possible that the inspiration for the game came from that of New Footy and indeed, the sets are remarkably similar. However, due to the faster, more flexible game provided by the lighter Subbuteo pieces, it is clear why Subbuteo became the market leader.



Old and New | One of the first kits sold and one of the later editions

## The Models

The game was in a constant state of development with new improvements being implemented frequently. First, the players were replaced with push-out card versions. Removing the need for cutting out the teams with scissors reduced the problem of bending or damaging the card players. This issue was reduced even further with the sale of celluloid figures from 1949. They claimed to be almost unbreakable but cost four times the price.

During the '50s the range of teams and accessories grew slowly, but it wasn't until the 1960s that the next major change appeared; the introduction of three dimensional, 00 gauge player models marketed as 'Continental Type'. These were mounted on larger bases than the previous card/celluloid pieces, now generally referred to as 'flats'. Although they were rather less maneuverable than the flats, the additional weight and wider base meant that long flicks were more accurate and much more powerful when they connected with the ball.

The first models wore short sleeved V-neck shirts which were produced for five years, eventually being replaced by a long sleeved version - the type most fondly remembered by Subbuteo fans and commonly referred to as 'heavyweights'.

## The Rise

These new models added a new dimension to the realism of the game and it is generally regarded that this change, combined with the growing popularity

of football (thanks due to an all-too-infrequent success in 1966), was responsible for the rapid increase in schoolboys taking up the game. By the time the '70s came around, Peter Adolf had sold the company to toy company Waddingtons, and Subbuteo was on a roll.

In the '70s Subbuteo was a household name and the product ranges expanded rapidly to fulfill demand, with the number of teams quadrupling in only six years. With the sport in its heyday and the commencement of an international league, Subbuteo was at its pinnacle of popularity.

To keep up with demand hand painting each figure individually was no longer feasible. The heavyweights were not suited to being machine painted resulting in a redesign of the player model. In 1977, these first machine-produced figures were released into the shops and are now affectionately known as 'zombies' on account of their ghoulish stance, looking like something that wouldn't look out of place lumbering around a graveyard in the dead of night.

The zombie was universally disliked and it was only a few short years before the players were redesigned again in 1980, this time combining the best bits of the heavyweights and the zombies to produce 'lightweights'; figures that were produced up to 1996.

## The Fall

The early '80s were a difficult time for all and Waddingtons proved no exception. Recession and a waning fervor for all things football resulted in declining sales. By 1986, the number of teams had almost halved from its high

point, with only 169 teams now offered, and sales slowly trailed off over the next decade.

Waddingtons was acquired by Hasbro in the mid '90s and attempts to revitalize the brand failed, with Hasbro deciding to call it a day in 1999. Public outcry over the news led to Hasbro canceling their decision and instead licensing the production of Subbuteo to Italians, Parodi. They continued to produce the sets and teams up to 2005 when Hasbro announced a major change to the game. The game would now be going full circle, moving back to the flats of the '50s.

And this brings us up to the present day. The current Subbuteo sets feature photorealistic flats of real players, which can be purchased in packs and traded in the playground.

## They Think It's All Over

There have certainly been a number of changes in all aspects of the Subbuteo world over its 59 year history - from the variations in models to the development of accessories including floodlights, Astroturf and streakers.

The new revamped game is indeed an interesting concept - harking back to the days of collecting football stickers for your album - and we can only wish Hasbro good luck for the game.



From left to right | Celluloid flat, Sports, Zombie, Heavyweight, Lightweight, Toccer & Raptor figures



## How To Play

Are you a complete newbie to the game of table football? Completely baffled by what we're talking about here? If so, you need our handy little guide to The Rules...

### The Setup

The game is played on a fabric pitch with 00 scale players. As with the real game of soccer, each side is comprised of eleven men, but mounted on weighted hemispherical bases. The goalkeepers are controlled by a long rod that protrudes underneath the net.

### Playtime

Each side takes turns to flick one of their men.

The side in possession of the ball must flick a player at the ball, with the aim of getting the ball into the goal through a series of passes and shooting.

If the attacker misses the ball or the ball hits an opposing player or goes off the pitch, possession is lost.

A man can only be used for three successive moves before another must be used.

For every offensive move, the defending player is allowed to flick one of their players into a better defensive position.

### Practice Makes Perfect

With practice, the accuracy of your shots will improve. Top players are known to be able to shoot accurately over large distances with the help of polished bases.

Advanced players can curl the men around defensive players by utilising the hemispherical shape of the bases.

For more information about the world of Subbuteo, Peter Upton's tribute site is one of the best resources on the net - [www.peter-upton.co.uk/sub1.htm](http://www.peter-upton.co.uk/sub1.htm)



# WHEN I GROW UP I WANT TO BE A... FOOTBALLER



**Unlike my uncle Ernest who had played professional football in the 1930s and several other members of my family who were stalwarts of the amateur game, my own football skills left a lot to be desired. In fact, an uncoordinated gibbon on tranquillisers could have probably played the beautiful game better than me.** I loved football but put a ball anywhere near me and I developed two left feet and a terminal loss of direction. Naturally this led to me being relegated to the side that included the asthmatics, the academics and the blind kid with the gimp leg when it came to PE. In a school that valued sporting prowess as much as academic achievement this was a bad thing indeed.

Our games master was an ex-paratrooper by the name of Jackson who was rumoured to have been kicked out of the regiment for brutality. He loathed any sign of weakness - and being useless at football was a sign of weakness in his book - so he took it on himself to toughen us up by any means possible. This usually took the form of ten laps of the school field and an hour and a half of trying to kick a heavy leather ball that had been manufactured circa 1863 around the flooded bottom pitch that was rumoured to harbour a breeding colony of crocodiles and a couple of Hippos in its swampy environs. The lesson would normally be overseen by Jackson and the slightly effeminate maths teacher Mr Davies, to whom Jackson had been heard referring to in an unguarded moment as "that Welsh poof". We hated the man with a vengeance but revenge was to be at hand, albeit unintentionally.

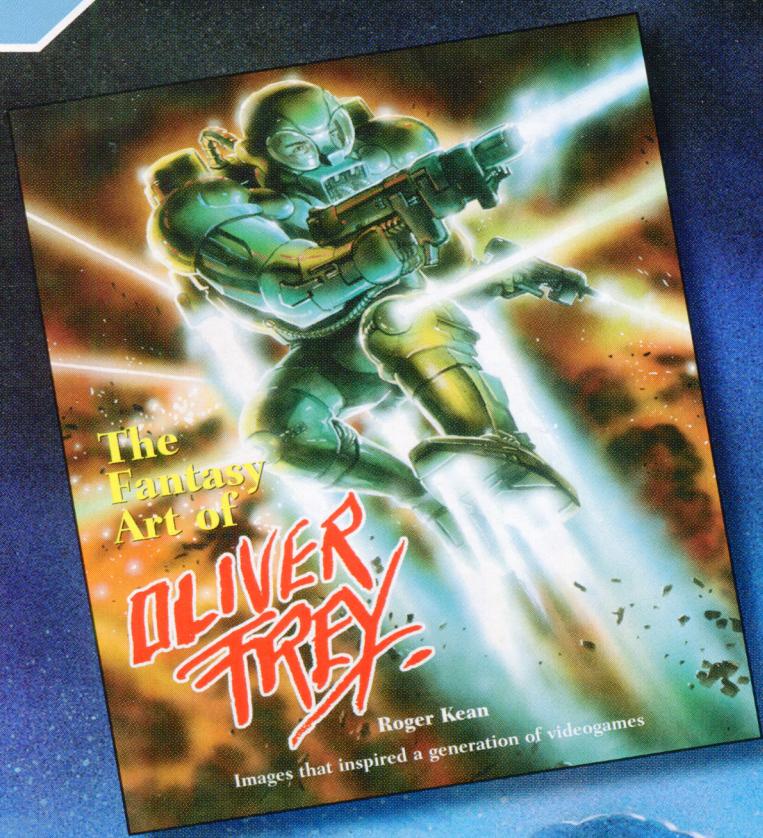
The lesson had begun normally enough with its lung bursting run around the periphery of the field that had left several of our group retching in the bushes and Neil, whose bottle bottom glasses had steamed up, getting severely lost and vanishing at a tangent behind the biology labs. Then the 'Cannonball' as we called it was brought onto the pitch and

we were divided into two teams. For about an hour the game progressed without incident. Occasionally one of us even managed to coordinate our limbs for long enough to get a shot somewhere within fifty feet of a goal which was lucky as both the keepers were asthmatic and any further exertion would have probably killed them. Then it happened. The ball suddenly landed at my feet and I heard Jackson's bellow of "run with it laddie!" from nearby. Mortal terror kicked in and I froze. If I tried to run I would inevitably end up on my arse in the mud, such was my lack of coordination in the vicinity of spherical objects on football pitches. Thus I did the only thing possible and gave the sodden leather ball as mighty a kick as I could possibly manage.

True to form, the ball, instead of sailing gracefully up the field to where team mates stood waiting in hopeful expectation, shot off my boot at an angle and at high speed like a navigationally challenged Cruise missile. With a loud and sickening thump it thudded into Mr Jackson or more precisely an area slightly south of his waistline. The sound brought play to a halt not only on our pitch but the top pitch as well. Only I was close enough to hear the strangled "meep!" as he folded to his knees and curled into a foetal position in the soggiest part of the pitch. He lay there for several moments before rising unsteadily to his feet and as he staggered back to the changing rooms clutching his injured groin, Mr Davies was heard to add insult to injury with the polite enquiry of "so, do you need some liniment rubbing on that?"

Luckily the football season ended that week but we were treated to the sight of Mr Jackson wearing an uncharacteristically baggy pair of trousers and never once sitting down for several days afterwards. As for me? All those present at the time agreed that the ball could not have been better targeted if George Best himself had kicked it.

- Iain Bickerstaffe



# The Fantasy Art of **OLIVER FREY**

Retro Fusion takes a look at a new book from Thalamus Publishing; a compilation of artwork from the man who made his name as the king of '80s gaming press illustration

OLIVER  
FREY

Looking through this high quality book is like taking a step down memory lane and whisks your thoughts back to the long summer evenings of yesteryear, flicking through your favourite gaming magazine

**What distinguished the artwork of Oli Frey was his unwavering ability to capture the essence and highlight the temperament of a computer game in a dynamic yet functional portrait; demonstrating a brilliant underlying perception of his subject and audience.**

As a teenager in the early '80s, I waited on pins each and every month for the new issue of Crash magazine to fall through my letterbox. As well as the informative editorial in each issue, it was the artwork by Frey that captured my imagination and instilled an immediate longing for the next issue.

The Crash covers never patronised the young readership by watering down or over-sweetening their content; frequently they would be of a mature nature, adorned with ferocious dragons, demons and other mythological beasts. Others, such as the Christmas specials, captured the time and essence of the season equally well. Each cover was unique and timeless.

Thalamus Publishing have recently compiled Frey's drawings into *The Fantasy Art of Oliver Frey*, which not only celebrates his work, but gives an insight into the life of the artist, or 'commercial illustrator' as Oli is known to prefer.

The editorial is written by Frey's close friend Roger Kean. Roger and Oli first met whilst they were studying a course at the London Film School in 1969 and therefore Kean is fully versed with his friend's career. His prose is informative and proves captivating reading as the link between Oli's artwork and that of the fledgling computer games industry of the 1980s is uncovered.

The main body of the book is filled with images from Frey's portfolio covering the days of Crash, Amtix and Zzap!64 through to Fear and LM, as well as game inserts created for the Thalamus range of titles. The reader is also presented

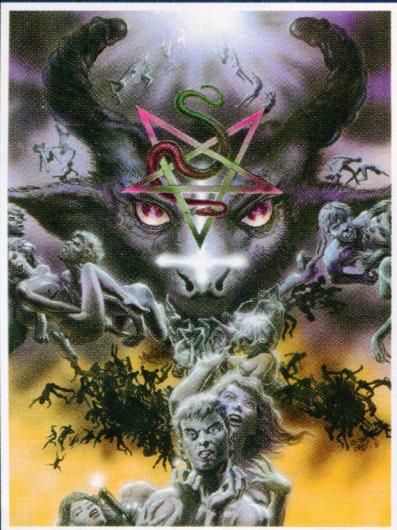
with images that have not found their way into print before and is informed of some of the techniques used by Frey whilst creating his designs.

Looking through this high quality book is like taking a step down memory lane and whisks your thoughts back to the long summer evenings of yesteryear, flicking through your favourite gaming magazine - be it Crash, Amtix or Zzap!64 - and then having one more go at beating your highest score on Spy Hunter.

This coffee table book is a must buy for the retro enthusiast and is on general sale now for the RRP of £16.99.

*Oli Frey, and the rest of the Thalamus Publishing gang, will be attending the Retro Fusion: A Weekend of Gaming! event. Copies of the book will be on sale with Frey and the others available for signings.*

*The images used in this article are reprinted here with kind permission of Thalamus Publishing and Oli Frey. © Thalamus Publishing 2006. Review by Chris Wilkins.*



left | Crash! Xmas special, issue 24  
Inset | The book cover

Clockwise from top right...

Occultist shenanigans courtesy of FEAR, issue 27

The Space Invader who launched a classic Spectrum magazine - Crash!, Issue 1

Used as an alternative for Sly Stallone and the film licence, Cobra, on Crash! Issue 35

Adorning a cover that has just turned 20 years old we have zombies... Zzap! Issue 13



In the first of an ongoing series examining iconic retro merchandise, Craig Vaughan investigates the worldwide puzzle phenomenon that gripped a generation.

In 1974 a little known Hungarian Professor began developing what would later become the world's most widely recognised and best selling puzzle – a toy he christened The Magic Cube. Three years later, his efforts finally bore fruit as prototypes were perfected and the fiendishly addictive game received its first Hungarian patent. On limited sale in several Budapest game stores, it sold briskly with demand effortlessly outstripping supply. Word of mouth soon caused

it to become a national phenomenon in its native market, at which point Ideal Games stepped in, re-branding it and introducing it to Western gam-

ers at toy shows in London, New York and Paris. Thus, the worldwide phenomenon and iconic image of the 80s, the Rubik's cube, was born.

In the two years that followed, Ernő Rubik's original cube and a host of authorized and bootleg copies went on to sell one hundred million units worldwide. In the UK, gamers fell in love with its 'pick up and play' addictiveness, leading the puzzle to be named The British Association of Toy Retailers 'Toy of the Year' in 1980 and 1981. As it invaded playgrounds and workplaces throughout the country, it was left to twelve-year-old schoolboy Patrick Bossert to publish his solution in a book called *You Can Do the Cube*.

This child prodigy proved that the application of certain fixed sequences of moves could solve the puzzle – which otherwise had billions of possible incorrect permutations – in just a few seconds. Bossert's self help guide

topped both *The Times* and the *New York Times'* bestseller lists in its first year of release before being translated into seventeen languages and selling one and a half million copies world-

wide, proving the appeal of the cube and the almost pathological need for people to solve its mysteries.

At the peak of its sales frenzy, huge amounts of cash were made by savvy businessmen who sold sheets of separately coloured stickers so that frustrated and defeated gamers could simply superimpose the correct colours on top of the old ones that they couldn't otherwise correctly place, thus enabling them to cheat their way to victory. As the puzzle solving industry enjoyed its hey day, Rubik's cube even enjoyed brief TV success with children's favourite Hanna-Barbera producing twelve episodes of *Rubik, The Amazing Cube*, a Saturday morning cartoon based on the puzzle, which aired in America as part of the *Pac-Man/Rubik, Amazing Cube Hour*.

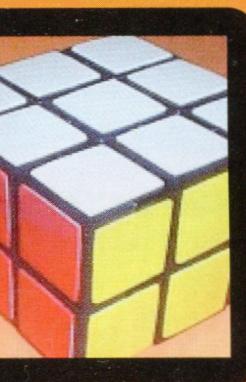
During the mid 80's the craze of crazes lost momentum and sales dipped, but not before a new genre of puzzle had firmly established itself in the hearts and minds of gamers across the globe. The phenomenon continues unabated today, unhindered by the onward march of technology and the popularity of computer and video games. With its 25th anniversary having just been celebrated worldwide, the Rubik's cube success story continues with global sales having now surpassed three hundred million units and new variants being released periodically to legions of loyal brain-frazzled fans.



Mr. Rubik and his cubes.

## Exploring the cube

The design of Rubik's cube remains a feat of engineering genius to this day. Made from hard moulded plastic, a standard 3 x 3 x 3 cube measures approximately 5.4 cm on each side. Other models, including a 2x2x2 Pocket Cube, a 4x4x4 Rubik's Revenge, and a 5x5x5 Professor's Cube were also later manufactured, but never shared the popularity of the original. The standard puzzle consists of a total of 26 unique pieces. The centre slabs of each face are mounted on stalks attached to the core mechanism, thus providing a basic frame for the other pieces to fit into and rotate around. A completed cube boasts six individually coloured faces and players tackle the simple task of restoring a jumbled cube back to its original glory by rotating layers until all the colours are restored to their natural order. If it sounds easy, millions of gamers will attest to the opposite being true.

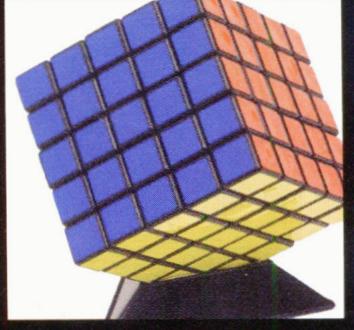


Many a frustrated gamer has taken to cheating over the years, and the fact is that the cube can easily be taken apart simply by turning an edge through a 45° angle and popping a piece away from the main core. This causes the structural integrity of the unit to collapse, meaning other pieces can then be removed with ease. Over the years this method has been adopted by hundreds of thousands of people as a means of correctly orientating a piece or two rather than going through the puzzle solving process. They do say that cheats never prosper and it's a sad fact that many gamers will have deconstructed their cubes and put them back together incorrectly so as to – unbeknownst to them – make solving the cube a physical impossibility.

The only safe way to ensure a cube is reassembled correctly is to reconstruct it as a completely solved puzzle with all the colours correctly shown on each face. It's highly ironic that millions of hours of wasted effort have been expended by people attempting to solve cubes which they have described as impossible, when it was their cheating that made the puzzle unsolvable in the first place.

With practice, and having

memorised the sequences of moves required to crack each phase of the cube's reconstruction following scrambling, it's possible for the average gamer to beat the challenge within some 10 minutes or so. That said, a thriving industry of enthusiasts still challenge each other to this day in 'speed cubing' championships in which their sole aim is to break the world record for solving the puzzle. These championships date back to Budapest in 1982 when a Los Angeles based Vietnamese student Minh Thai set the first world record with a time of 22.95 seconds. As ever, with so much at stake during these competitive meetings, a standard had to be set against which all record attempts could be monitored and scrutinised. As a result, only records set during official World Cube Association Tournaments are now acknowledged. At the most recent of these, held on January 14 2006, Leyan Lo, a 20-year-old student from the USA, set a new world record of 11.13 seconds for speed solving the cube, an achievement unbeaten to this day.



## Record Breakers

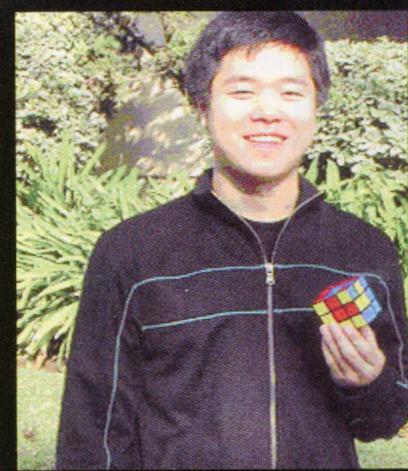
On January 14th, 2006, Leyan Lo set the world record by solving the Rubik's Cube in 11.13 seconds at the Caltech Winter 2006 Competition at the Exploratorium Museum in San Francisco. He also holds the record for solving the Cube blindfolded with a time of 1:28.82 set on March 11th, 2006. He recently took 2 minutes out of his schedule to answer our questions – and that's an awfully long time in his world.

Casting his mind back, Leyan Lo recalls how his love affair with the cube began: "The first time I picked up a Rubik's Cube was at a summer program in 1998. I was taking a course in mathematical modelling and for the last week, our professor gave us all Rubik's Cubes to figure out. I was only able to solve the first two layers by myself. At the end of the summer, the professor showed us how to finish the last layer". Speed solving wasn't a priority either as Lo relates: "I wasn't interested in speed cubing at all until 2004. During my freshman year here at Caltech, I met someone who was really into speed-cubing. He started the Caltech Rubik's Cube Club and began hosting all of these Rubik's Cube competitions that year. It was then that I started seriously learning new methods for improving my times. Before I started learning the

new methods, I averaged around 75 seconds with a basic solution".

Purely learning strategies and tricks wasn't enough to become the best of the best – some extra help was required: "Rubik's cubes are very hard to turn straight out of the box. In order to achieve faster times, speedcubers commonly enhance their cubes using silicone lubricant". Naturally, Lo believes anyone can crack the cube: "Solving it is a step-by-step process.

When I broke the world record I was just trying to focus on solving the cube, and not thinking about the time I was going to get. I couldn't tell before I began that this would be an easy cube. Solving the cube is a step-by-step process – first solve 4 edges on one side, then stick a corner and edge into the right spot, then repeat 3 more times to finish the first two layers, then you need to orient the pieces on the last layer so a certain colour is on top, and finally, you put the last layer pieces into the right place". Many credit Lo's world record to him receiving a fortuitously easy cube to solve, but he rejects this claim: "Well, it's a little hard to explain using words, but basically, I came to the very last step after orienting the pieces and found that they were already in the right places, thus meaning I could skip the final step.

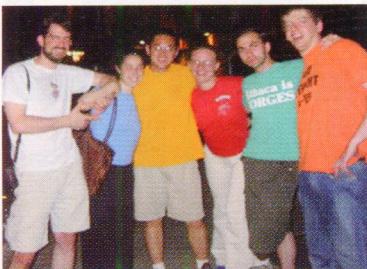


These cases are considered 'lucky' to us speedcubers and happen every so often (there's a 1 in 72 chance). Adding this step, I would have taken around 2 more seconds to finish the cube, which would still have given me a really good time of 13 seconds". And for those looking for inspiration, Lo offers these parting words of advice: "It takes practice to speedsolve the Rubik's Cube. The Internet is full of solutions and guides for this, and there are plenty of people online at the speedcubing forums who are willing to help others learn and answer questions. The Rubik's cube fad is reviving and more and more people are competing and improving these days. There is a limit to how fast the cube can be solved, but I don't believe we're there yet...."

## Only In America



One of the most prominent landmarks in the East Village of Manhattan, USA is a statue of a giant steel cube. Built at Astor Place in 1968, it has stood there ever since, though few remember what it actually represents. The fun part is that it can spin on its axis and provides the perfect opportunity for the world's biggest Rubik's Cube prank...



1. Here's the steel monstrosity in all its glory. It is sited at a huge road junction and tens of thousands of people drive and walk past daily. The perfect site then for the jolly pranksters at <http://www.alltooflat.com> to pull off their most outrageous stunt to date.



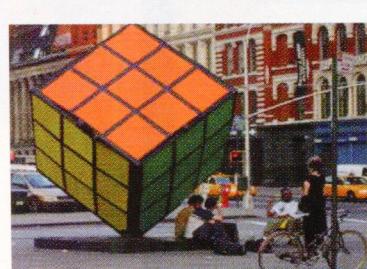
2. Meet the team who hope to pull off this caper without getting their collars felt...



3. Close up you can get a real sense of the size of the landmark and how difficult it is going to be to pull off this little stunt.



4. Still, with a willing work crew and under the cover of darkness anything is possible, so the guys and gals get to work in the style of all those lovable Blue Peter presenters.



5. Undisturbed by the boys in blue and working through the night in order to be ready for the rush hour next morning, the cube begins to take shape. But just what will the reaction of early morning commuters be?



6. After hours of hard labour, the finished product is unveiled to a disbelieving public. Slow to react, the department of public works leaves the cube standing proudly unhindered for the full day meaning that commuters get to marvel at it both on the way to work and on their journey home. Even the attentions of graffiti artists can't spoil the effect.

7. Even at a distance, the Cube looks like a wonder to behold and adds some much needed colour to the traffic intersection.

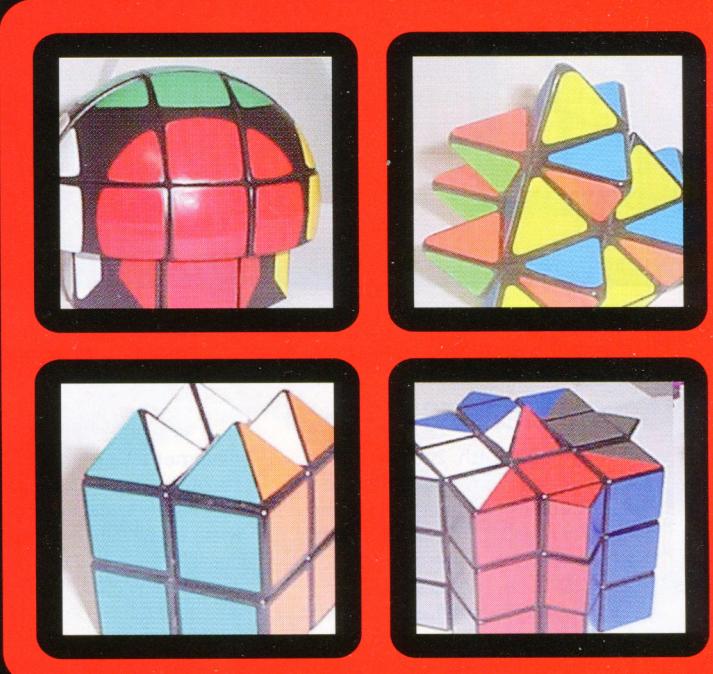
Given that the cube seemed to survive for longer than would have been expected, we contacted the Mayor of New York for his thoughts on the matter. Did he see the funny side and thus allow the cube to stay so others might share the joke? Are his sanitation staff so overworked they just didn't get round to dismantling it? Is the Mayor a lifetime fan of all things Rubik related? At the time of going to press we were still waiting for his answers...

## Modding the cube

It's not just computer and video games that are hacked to pieces by enthusiastic amateurs...

Given that Rubik's cube has been going strong for nearly three decades; it's perhaps unsurprising that the phenomenon has spawned a thriving online community dealing with various aspects of its existence. Forty year old Canadian Mark Longridge runs a 'cube modding' site situated at <http://cubeman.org>. His obsession with the puzzle goes right back to the 80s as he explains: "I first encountered the cube in the fall of 1980. I can remember looking at it and thinking 'That thing can turn on all three axis!' It was elegant in that it could be manipulated in various different directions, but stayed together in one piece. I quickly learned to solve the first two layers but was stuck for a while on the third. When I read David Singmaster's book Notes on Rubik's Magic Cube it gave me the necessary insight to completely solve the cube. For a long time I was preoccupied with cracking the cube quickly".

Having beaten the basic model Longridge's interest wasn't peaked again until a few years later, as he recalls: "In the late 1980's I started to hear about people who could make new puzzles by modifying production puzzles, but I didn't start making any of my own until around 2000. Naturally this opened up a whole new dimension to Rubik's Cube and the like. Really the online 'cube phenomena' has two major parts: the 1st generation is mainly concerned with solving the cube and speed-cubing. The 2nd generation involve themselves with puzzle building at the hobbyist level".



The philosophy behind physically modifying pre-existing cubes is to confound those seeking to solve them. Longridge confirms: "I would say the solutions to the modified cubes are similar to the originals, but different enough so that someone who can solve a normal cube still has to alter their thought processes. In the case of puzzles like the 3x2x2 and 3x3x2 we present new circumstances that force the solver to use more 180 degree turns instead of the usual 90 degree turns so the solver has to adapt their algorithms accordingly. We like to think we keep people on their toes".

The inherent danger in modifying a puzzle based cube is that alterations will make the puzzle impossible to complete, a danger Longridge is fully aware of: "The puzzles are made pre-solved and I check that all moves are reversible. Mind you, the Tartan Cube gives me a headache - I've only solved it once. I've always maintained that for maximum torture gamers should solve the tartan cube while listening to bagpipe music! I don't think I ever solved the Alpha Cube (above, bottom right) but I never really tried to. Modding and making puzzles is quite time consuming and just getting things finished is enough of a puzzle. I'm sure I spent at least six hours building the first 3x3x2 puzzle, so by the end of the building process I'm just happy that it's finished".

# CAN DO CUBE

...you can do the cube...  
RUBIK'S CUBE  
BY PATRICK BOSSERT

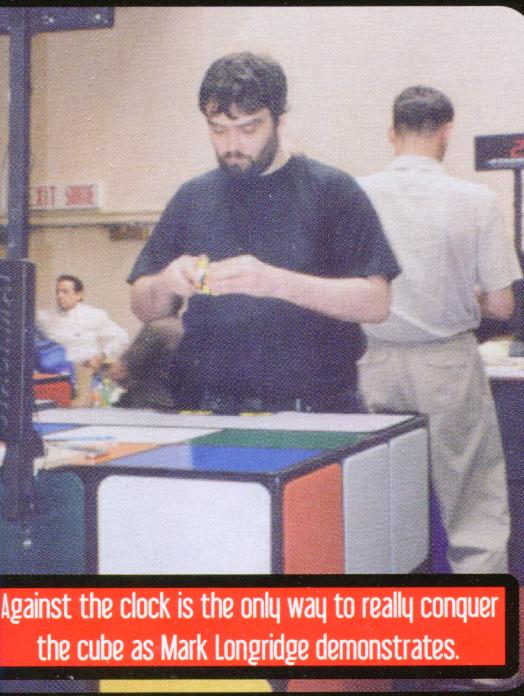


## Child's Play

At the tender age of 12, Patrick Bossert wrote a book based on his own solution to the Rubik's Cube. It was published in 1981, and became the fastest selling book in history since the publication of *Lady Chatterley's Lover*. We recently tracked him down to discuss all matters cube related



Patrick Bossert cracked the cube at the age of 12.



Against the clock is the only way to really conquer the cube as Mark Longridge demonstrates.

Though over two decades have passed since his cube solving exploits made headlines all over Britain, Bossert remembers it as if it was yesterday: "I was on a two-week skiing trip with my parents and on the first day I had a major wipe-out and broke my right hand. As a result I was stuck in a chalet for two weeks with nothing to do. A thoughtful cousin who had heard about my accident saw a Rubik's cube in a shop in Zurich and sent it up to me. Ten days later I had it licked. I'm a very logically minded person and I quickly pick up on associations in patterns, sequences and dependencies.

I started by trying arbitrary sequences of moves and repeating them to see what they would do. After a while I started seeing some connections between sequences and outcomes, from which I started to put different sequence segments together which eventually formed the 'tricks' I describe in my book. The tricks are sequences of moves that do clearly identifiable things, like swap or rotate corner pieces. It took the best part of five days to solve it for the first time".

The feeling of elation at cracking the cube remains tangible today as Bossert relates: "It felt great but I couldn't wait to scramble it and try again. There were plenty of people who could do the cube faster than me, but I could consistently do it in less than sixty seconds. I can still solve the cube now, but a lot of the really neat sequences have escaped my memory". Bossert's solution gained a lot of attention, as he recalls: "My solution was unique. I still haven't seen another one that takes the same approach. There's a chap called Georges Helm who has built a brilliant library of cube books (see <http://www.helm.lu/cube/books/>) who has analysed all the different approaches. He's contacted me and pointed out

a few similarities between some of my cube 'tricks' and other commercial solutions, but my book was first to market out of all of them. I doubt there was any plagiarism on the part of anyone else - every solution has integrity in its own way".

The inspiration for Bossert's book came from his classmates at school as he relates: "I taught several of my friends at school how to do the cube. Through doing this I developed a graphical short-hand for recording moves which made it easier to explain certain move sequences. There was obviously a lot of demand for a cube solution at my school, so I used the graphical notation that I had developed to write out a 'bare-bones' version of my solution on two sides of A4. I photocopied it and sold it for 30p a copy. It sold so well that I ended up franchising the sale of my solution through other children at other schools".

As is often the case, fate then intervened: "The father of one of the children that bought my solution worked for Penguin Books, and when he saw how well it worked I received a call asking me to write a book for them. I took two weeks off school to write 'You Can Do The Cube' - with the school's blessing, of course - and the outcome completely surprised me. I thought it would sell a few thousand copies. It sold 1.5 million instead". At that point Bossert became something of a celebrity, often with amusing results: "I did a cube video for Thorn EMI, but the grease I used in the cubes got so hot under the studio lights that the stickers kept sliding off. My favourite moment was on BBC Nationwide with Frank Bough as host - I was booked in for a 60-second long interview on live TV. Much to my alarm I was asked to do a cube while being interviewed. I had done quite a few TV interviews, but this one was a tough call in such a limited amount

of time. I handed the completed cube over to Frank 54 seconds into the interview, having hardly looked at it the whole time. He was so stunned he lost his track of his question and remained speechless for the remaining six seconds of the interview. When they cut to another piece the camera crew gave me a standing ovation. It had never happened to Frank before".

Several decades later, Bossert's solution endures as a simple and practical solution to the cube: "The book went out of print and the copyright returned to me in 1985. I'm frequently contacted by people trying to get hold of it, so I decided to update it and re-write it as an eBook in Adobe pdf format. I recently started selling 'You Can do the Cube - the eBook version' through the world's biggest shop, eBay. It sells pretty well, and the feedback has been terrific". Not that Bossert has been tempted to repeat his publishing phenomenon: "Every time Rubik launched another puzzle Penguin Books would contact me to ask 'can you write another book for us?'. Every time I'd say 'no'. I bought the new puzzles, played with them and solved them if they needed solving. I felt the follow-on puzzles were rubbish by comparison and not worthy of a published solution. With hindsight I should have sold out and simply gone with it. It's funny how your principles erode as you get older".

Bossert's flirtation with the cube had a defining impact on the rest of his life: "It taught me a lot about the power of PR and marketing. I'm a management consultant now, helping business people address really challenging multi-dimensional business puzzles of products, markets, organisations, politics, economics and technologies. I help them break it down into a manageable process so that they can do something about it". So, you could say he's come full circle.

Images and photography used with kind permission and copyright of Mark Longridge (<http://cubeman.org/>), the internet pranksters at <http://www.alltooflat.com>, The official Rubik's cube site at <http://www.rubiks.com>, the best online resource for historical material relating to the Rubik's Cube (c) 2006 The Harder-Dolgey Collection at <http://puzzlemuseum.com>, without the help of these individuals and organisations this article would not have been possible.



# TONKA TOUGH

The Mighty Dump Truck has a place in every boy's heart. George T Kitchen gives us the history of this legendary toy, built to resist the most destructive child...

**Tonka Toys is the epitome of retro "Americana" - Steel trucks that are Tonka tough, built to last and handed down from one generation to the next.** From its beginnings in an old three-floor schoolhouse in 1947, Mound Metalcraft Incorporated has grown into what is now the Tonka Toy Group; a division of multi-billion dollar Hasbro Incorporated.

Mound Metalcraft Company was established in 1946 as a joint venture between Lynn Baker, Avery Crounse and Alvin Tesch. The company initially manufactured lawn and garden implements; rakes, hoes, shovels and the like. In 1947, Mound Metalcraft was offered the opportunity to manufacture a range of steel toys envisioned by Edward C. Streeter, son of L.E. Streeter, the founder of Streator Industries. The #100 Steam Shovel and #150 Crane and Clam were purchased from Streator and sold under the new Tonka brand. Tonka Toys was on the map.

Although the Tonka Toys name appeared on all products manufactured by

Mound Metalcraft from 1947 onwards, Mound Metalcraft, Inc. didn't change its name to Tonka Toys, Inc. until 1st January 1956.

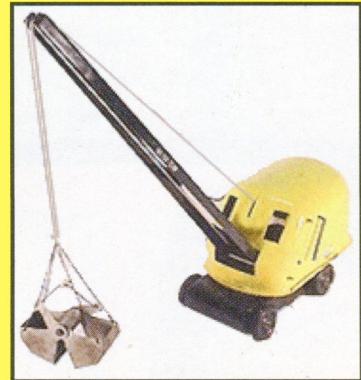
#### The Streeter Connection

The Streeter #100 Steam Shovel, made by Streator Industries in 1946 - along with a crane, a clam and the Streeter line of wood coaster wagons and juvenile furniture items - were unveiled at the forty-fourth annual American Toy Fair held in New York City on 10th March 1947. Streator Industries was looking forward to making its name known to the toy world and the business it would generate.

According to L.E. Streeter's nephew, Edward's experience with the New York Toy Show and the people involved completely turned him off the toy business, and prompted him to put the business up for sale soon afterwards.

In an interview on 22nd November 1953 with the Minneapolis Sun Tribune, Lynn Baker told how he was lunching with Edward Streeter and in conversation he mentioned that his plant was for sale. Baker, Crounse and Tesch not only purchased the Steam Shovel and Crane and Clam toys from Streeter, they also bought the original Tonka Toys manufacturing site.

Following the introduction of the Steam Shovel and the Crane and Clam there was a myriad of different models released. These first two product lines went through various colour changes over the next few years, and their success saw a host of different models of



The original #150 Crane and Clam

pressed steel toys beginning manufacture.

If Tonka wanted to compete with the likes of Buddy L, Marx, Nylint, Structo, Wyandotte and others, it had to diversify. To that end, dump trucks, wreckers, semis and box vans all made their initial appearance prior to 1955.

To meet the demand of an insatiable appetite for Tonka trucks from consumers, Mound Metalcraft moved into a larger manufacturing facility in 1955 to cater for the production of an ever increasing product line. In a very short space of time a 50,000 square foot addition was added to the new facility to cope with the escalating scale of production.

#### Mighty Tonka

Since the introduction of the Model 900 Mighty Dump in 1964, sandboxes have never been the same. The Mighty series in general (and the Mighty Dump in particular) are what many believe helped make Tonka the toy of choice for many mums and dads when it was time for that perfect birthday or Christmas present.

The trucks were built with the same 20-gauge steel the auto and truck industry used on full size cars and trucks. Bright

The original #100 Steam Shovel



1954 Parcel Van



1957 Lumber Truck



1990 Silver Anniversary Dump Truck



1957 Pickup Truck



1960 Wrecker

yellow paint was applied to the main body components, and black for the chassis and bumpers.

Charles Groschen, who at the time was Tonka's VP of manufacturing, is recognized as the genius behind the design of the first Mighty Dump. His inspiration was said to be the huge open pit ore carrying trucks typical of the era.

The first Mighty Dump was manufactured, packed and shipped in early 1964. In 1982, Tonka rolled its seven millionth Mighty Dump off the assembly line. New models including the Clam, Crane, Mixer, Scraper, Car Carrier and Wrecker were added (and, in some cases, deleted) from the series over the years.

Mighty Tonka trucks are generally recognized as being manufactured in three different configurations or generations. First generation trucks are those manufactured from 1964 to 1972. These trucks are said to be more realistic in duplicating the design elements of their full scale brothers with a heavy dose of steel.

Second generation trucks were manufactured from 1973 through 1982. These trucks - still based on the first generation size and proportion - moved towards a less realistic design with steel components being replaced by plastic; a good example being the bumper and grille. Beginning in 1973, a single chunk of plastic replaced these two elements featured on first generation Mighty trucks.

Third generation trucks began to roll off the assembly line during 1982 for the following toy sales season with the same basic design continuing into 2004. The 1983 Mighty Tonka trucks represented a complete redesign with little more than the tires and hubs being interchangeable with the previous generation. Over the 20+ years the third generation was produced, Tonka began to dilute the Mighty Tonka series with non-typical Mighty trucks. The essence of the original design began to take a backseat to flooding the market with school buses, ambulances, off road pickups and a host

of other toys developed and assigned to the Mighty series.

The Tonka Toys brand became synonymous with the ideals of the U.S.A., where 'big was beautiful'. Unfortunately in 1998 financial setbacks saw Tonka Toy manufacturing move completely out of the United States to a location in mainland China. In today's global manufacturing environment, "Made in the USA" tends to take a backseat when it affects the bottom line. So much for "Americana".

However, if auction sites such as eBay are any indication, vintage Tonka trucks are more popular than ever; the test of great innovation is in its longevity. Tonka trucks new and old continue to be a solid favourite with kids from 3 to 93.

*George T Kitchen worked for Tonka in Texas for 12 years. He now owns and maintains a website on Tonka toys found at <http://www.100megsfree3.com/lonestar/index.html>*

*Tonka is a registered trademark of Hasbro Inc.*



**A selection  
of vehicles from  
the Tonka range**

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RETRO FUSION

## Welcome to the Film & TV section

The only thing better than reading Retro Fusion is writing it. This issue, our dedicated team of writers and researchers have spent hours upon end watching all four TV channels on their 21", 4:3 ratio, analogue screens and stuffing their faces with Spangles, Marathons and Wimpy burgers to bring you the best in retro coverage.



And, after all our effort bringing you a meticulous and probing journey into the lone world of the Knight Rider, followed by a merry dance around the rim of your breakfast bowl with the impish Rice Krispie mascots Snap, Crackle and Pop, here you are wasting time reading an introduction. Honestly.

## Robots In Disguise

DreamWorks recently announced the live-action (and combined CGI, presumably) Transformers movie that has been scheduled for release on July 4th 2007.

Promised to be "more than meets the eye", the live action movie has a cast and crew line up that suggests this may not be an empty claim.

Coming from the pens of long time writing partners Robert Orci and Alex Kurtzman, known for their work on The Island, Mission Impossible III, Alias, Xena and more, the script is in good hands for an action packed treatment.

Michael Bay, who has collaborated with the two writers on many a successful project, is onboard to direct with acclaimed veteran Steven Spielberg (known for such tele-visual feasts as 1941, Joe Versus the Volcano and Columbo) is filling in as executive producer.

The two writers have proclaimed to having something of a naivety when it comes to the robots in disguise, but

promise this will only serve to motivate them to create a strong, character-based script that won't rely on big screen special effects to drive the plot (although these will also be in abundance).

We can only hope that Hollywood does justice to Hasbro's magnificent machines, but with such a talented line up, the future looks bright.

Keep an eye out for more robot related fun from the Transformers in the next issue of Retro Fusion!



## Say Hello To Mu Little Friend



Fancy a nice, violent retro movie tie-in to pass the time this year? Then look no further; Scarface: The World is Yours is due out on PC, PS2 and XBOX in the Autumn.

The game puts you in control of the infamous crime lord Tony Montana who, at the end of the original film, is left for dead (a shotgun in the back usually does that to you). With Sosa taking everything you had, you must reclaim everything you had and rebuild your empire.

The story for the game is written by David McKenna (American History X) and is being developed by Radical Games.



**Let's get this out of the way before we go any further; I think David Hasselhoff is alright. His defining commission as kitsch vigilante Michael Knight was written specifically to accommodate the flat pack talents of 1980s stereotypical leading male heart-throbs - a chiselled jaw, an unbuttoned shirt, a bird on both arms and a monosyllabic vocabulary. The Hoff, as always, went above and beyond his calling.**

Yet this particular Lone Ranger was significantly overshadowed by his high-tech steed; the enigmatic, overly conspicuous chatterbox Trans-Am known as K.I.T.T.. With a small entourage of plot hole filling characters, they travelled the unforgiving highways of middle America exacting state-of-the-art justice whenever the law failed, proving to a badly dressed '80s youth that one man and his machine really can make a difference.

#### **A SHADY FLIGHT**

The process by which all TV, stage and film productions are made defies logic at every turn. Whether this is good or bad is not what we are here to discuss; suffice to say that once a studio has decided it wants something specific, or doesn't like something currently on air, its will is resolute. And so it was that Universal Studios decided it must have a brand new, high-tech, prime time extravaganza that would - without argument, discussion or rationalisation - involve a futuristic, technologically advanced car. It was simply a case of getting someone to fill in the blanks.

Unsurprisingly, they were unable to coax any of their resident (or even freelance) producers to go near the bizarre project. As a last straw, Universal called in an outstanding contractual obligation owed to them by Glen A. Larson, the creator of Buck Rogers, Battlestar Galactica and The Fall Guy. Despite being last on the list, the whole concept was actually born of an idea seen in Larson's previous work, B.J. and the Bear. A 1979 episode entitled 'Cain's Cruiser' had featured a stolen computer controlled super-car.

Rather than writing the car in as a prop or a 'deus ex machina' used to enhance David Hasselhoff's main protagonist, Larson astutely designed it as a character in its own right; with all the traits, personality and back story that any other human player would receive during script development. For this reason, choosing which vehicle would become the iconic image of his new series was as much a casting session as deciding who would play Michael Knight.

In 1982, Pontiac were just about to bring the first of their new line of Trans-Am sports ranges off the production line and when Larson saw it, he knew the short search was over. Its sleek, futuristic profile meant the design team would barely have to modify the machine at all. Pontiac was as excited about the project as Universal, graciously donating the first two models to come off the production line to the Knight Rider project.

This allowed the team to put together Larson's double length pilot episode and showcase it to the men in suits. The answer was an immediate and resounding 'yes', and 'Knight of the Phoenix' was ready for broadcast on September 26, 1982. The show quickly began robbing its leading rival, Dallas, of viewers.

Although a cynic might remember Knight Rider as a cheesy, predictable way of hypnotising the mindless masses, it provided everything the prime time viewer was looking for, with the added benefit that the whole family could find an appeal within the flashing lights of K.I.T.T.'s dashboard. The kids discovered a new hero who regaled them with outstanding stunts, the men folk were drawn in with hot wheeled car chases, and the women were luckiest of all; they were given the tight jeans of the Hoffmeister for an hour each week.

#### **THE WORLD OF THE KNIGHT RIDER**

If we take a minute to peel away the superficial layers of the Knight Rider onion, we are in fact left with a relevant, professional and intelligent re-imagining of the typical comic book superhero.

It's easy to compare Michael and K.I.T.T. to

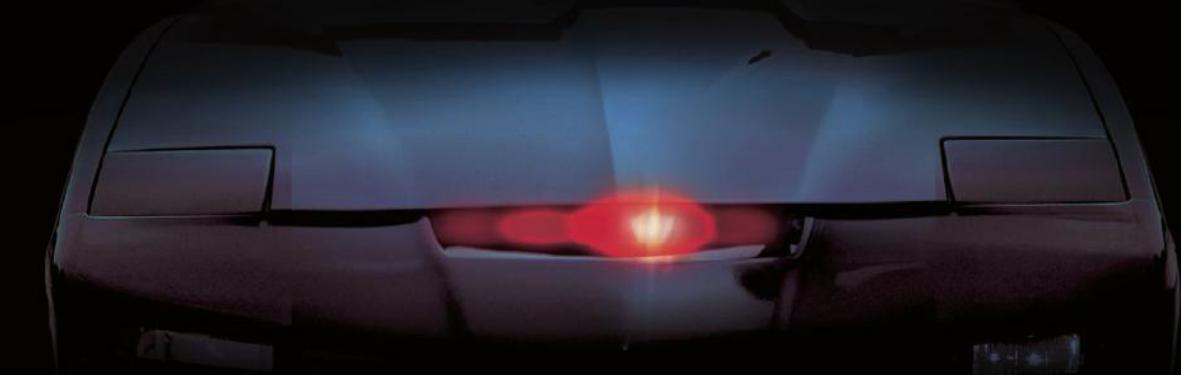
the Lone Ranger and Silver - too easy, in fact - and doesn't ring true simply because of the considerable differences between the viewers of those two shows. One would not appeal to fans of the other. The Knight Rider duo of Michael and K.I.T.T. are more accurately compared to the likes of a comic book personality, their back story more than fulfilling the established requirements of an urban superhero.

Michael Long, as he was originally known, met with a traumatic transformation that served as a catalyst for his future status as champion of the down trodden. Just as Peter Parker was bitten by a radioactive spider, undercover cop Michael Long was betrayed, shot in the face and left for dead. A metal plate in his head (a casualty of the Vietnam war in which Long served) deflected the bullet away from his brain and saving his life, though his face was severely wounded by the ricocheting bullet.

Rescued by eccentric billionaire Wilton Knight, Long's face was reconstructed and altered to hide his identity and prepare him for the noble purpose of becoming the sword arm for a private foundation for justice. A harrowing transformation that created a new man, reborn with the power his previous incarnation lacked - motivated and ready to change the world.

Michael Long's saviour, Wilton Knight, needed an heir. A dying man, he established his legacy in the form of the Foundation for Law and Government; FLAG. A powerful, yet charitable institution, FLAG provided legal, financial and personal support to innocents in desperation, though Knight understood that on occasion, protecting the oppressed required a more active involvement and sought out a crusader to deliver justice wherever the law failed. Upon Wilton's death in the first episode, Michael Long became Michael Knight, agreeing to carry out his saviour's virtuous legacy.

Naturally, a hero must have an edge; something he has that the world is lacking - a means to see his righteous journey through.



# **KNIGHT RIDER**

**Talking cars for the men, a touch of The Hoff for the women - Knight Rider was an instant hit. Spanner Spencer delves into the realms of a man who does not exist...**



Generally, this is embodied in whatever imaginative superpowers the comic creator can invent, but in Michael Knight's case it was the indestructible, intelligent, technologically advanced Knight Industries Two Thousand car. Together, they learned to uphold the ideals of FLAG's founder, becoming an inseparable symbiotic entity capable of meeting any adversary head on in defence of the common people.

A new breed of hero for the next generation of viewer, wearing a leather jacket instead of a cape, Cuban heels instead of knee high boots and commanding a power based in the world we know, in a form we recognise. Brilliantly realised and subtly executed, Glen Larson created a character to rival anything Stan Lee had ever envisioned, while ingeniously masking any typically camp superhero antics, allowing us to enjoy the show unhindered.

#### DARTH VADER'S BATHROOM

K.I.T.T.'s designers only had a couple of weeks from the Trans-Am being selected to shooting the pilot episode, in which time not only the futuristic look of the car had to be achieved, but the character of K.I.T.T. had to be infused into the inanimate object. Larson had looked over the portfolio of a young prop designer, Michael Sheffe, who had worked on several low budget movies and also as a concept designer on Blade Runner.

Sheffe put together his own team for the job of adding the props to the interior and shell of the Trans-Am, and within a few short weeks he created the iconic dashboard and new, streamlined 'nose' for the car containing the trademark scanner lights. The scanner was a concept Larson had previously put to effective use in Buck Rogers as a way to bring emotion to the inert, expressionless faces of the Cylons. It worked equally well for K.I.T.T., providing a focal point and a heart beat for the otherwise impassive machine, bringing Michael's partner to life in a way that allowed both the actors and the audience to see K.I.T.T. as a fully fledged character.

The result was a futuristic, believable cockpit which provided a personal contact for Michael and the audience to feel connected to the car's personality – a humanity that the antagonists were unaware of, allowing the viewer feel as though they had access to privileged information.

At any one time there were several versions of K.I.T.T. ready for filming. The 'hero' car (hero being a commonly used reference to a prop that is designed to be seen up close when in use by the hero) was a well groomed version we see the Hoff getting in and out of, or driving carefully down the road. This unit was equipped with the fully illuminated dashboard and was lovingly tended to in order to maintain K.I.T.T.'s visage of invulnerability.

There was no single, definitive model that served as a stunt car, however, as each stunt (even some of the stock tricks like jumps and driving on two wheels) demanded very

specific attention to detail. There were several standard methods used to create the illusions of K.I.T.T.'s abilities, such as the famous 'auto drive' mode.

Depending what was required, the Trans-Am was sometimes towed by the vehicle in front, allowing for closer shots of an empty interior. When traversing the streets and making more complex manoeuvres, like turning, parking or chauffeuring a passenger, an extended rack and pinion set was installed so a driver could operate the vehicle from the back seat while hidden behind dark glass. Although the driver wasn't always as well hidden as perhaps he thought, the effect was still credible, particularly when used in combination with the studio sets of K.I.T.T.'s dashboard and the car's enigmatic voice over providing subtle, engaging exposition.

Most jumps performed by the car were impossible to film in a single shot, mainly due to the inability of the car to ground in one piece without a landing ramp. Various techniques were used to keep the vehicle as level as possible when air bound, such as adding weights in the back (a technique that made the machine very difficult to drive ordinarily and more than a couple were smashed up by delivery drivers en route to the set) and using fibre glass models with the interior stripped out to reduce overall weight.

Veteran stunt driver and choreographer Jack Gill, who did much of the dangerous driving for the Dukes of Hazzard, designed the ramps and safety systems used in the stunt cars. Due to the style of the Trans-Am, stunt drivers felt the landing more than their chiropractors thought was good for them, so Gill invented a seat belt system that effectively suspended the driver on bungee cords from the roll cage, reducing the impact transferred to their spine during the harsh landings.

Over the series' K.I.T.T. underwent several remodelling processes in order to keep his technology ahead of actual car designs that were appearing on the road, many of which were beginning to contain the supposedly futuristic elements that made Knight Rider stand out. A plot device was developed to allow for this which worked quite nicely and became a trademark 'end of season' finale - destroying K.I.T.T.. This way, a whole new dashboard and new technologies could be introduced for the new series without lengthy or suspicious exposition.

By the third series, the show was such a hit that a completely redesigned body shell was given the green light by the studio. All manner of fins, ducts and spoilers were deployed when K.I.T.T. hit his new speeds of over 300MPH in 'Super Pursuit Mode'. Three SPM models were built with performance tuned engines and the body kits were actually welded on for use at high speeds, at a cost of over US\$250,000. A fourth unit was made without an engine as the bonnet space was required for all the hydraulics required to show the transition into

#### Super Pursuit Mode.

More for Michael Knight's benefit than K.I.T.T.'s, a convertible model was also produced. Pontiac never designed such a machine, so once again it was up to Universal to customise their own. In the series, we see the hard top retract into the boot, though this was also a combination of two different cars – a permanent convertible and a trailer mounted prop used to show the top retracting.

Of course, no superhero is complete without a sidekick who serves to represent the halfway house between the hero and the viewer, and in Knight Rider's case there were plenty to choose from.

#### A MAN WHO DOES NOT EXIST

David Michael Hasselhoff had already garnered a veritable cult following of adoring women from his roll as Dr William 'Snapper' Foster (Jr.) in the savvy, cheese ball soap opera, The Young and the Restless. He had spent several years after his time on the cardboard sets trying to make the transition away from his typecast roll, and although he managed to keep himself in work and sustain his swooning fan base, Knight Rider was the big break he'd been looking for.

Once he found out about the forthcoming show he threw himself into the task of becoming Michael Knight, but after an initially disastrous screen test NBC rejected his tape. Fortunately, they also rejected all the other actors who had turned up for the casting session, including struggling, stubble-faced, all-American, Don Johnson. Larson, however, knew the character of Michael Knight better than

**Due to the style of the car, stunt drivers felt the landing more than their chiropractors thought was good for them, so Gill invented a seat belt system that effectively suspended the driver on bungee cords from the roll cage, reducing the impact transferred to their spine during the harsh landings.**



anyone, and although it may sound a little shallow now, he was confident that the Hoffmeister was exactly the right look for his leading role (acting skills were not prerequisite).

The real emphasis on Michael Knight was to be a continuation of the car. Tall, dark, desirable; the Hoff met the match perfectly, so Larson pleaded his case to the big wigs, who - more through a profound trust in the producer than granting any credibility to the actor - allowed them to use Hasselhoff in the pilot episode.

Once filming began, Hasselhoff soon made himself an integral part of the show through his ability to converse and interact with the inanimate object upon which the lime light shone. This may not sound too difficult, but throughout the first series (and in some circumstances, beyond) many of the other, more seasoned actors not only found it difficult to include K.I.T.T. as a co-star, but were distinctly disinclined to even try. Hasselhoff had no such difficulty and soon began to adlib with the loquacious coupé, introducing many of the idiosyncrasies the pair are remembered for, such as referring to K.I.T.T. as 'buddy', and patting him like a horse.

With the overabundance of trend and style, Larson felt the show would benefit from a good dose of established thespian charm, and specifically sought out the theatre trained duke of debonair, the late Edward Mulhare, for the part of Devon Miles. Mulhare, however, was not impressed by the thought of playing second fiddle to a vulgar sports car, and although he decided to give Devon a fair crack of the whip, it took six

months of persuasion for him to join in with the team's enthusiasm. A noticeable difference can be seen in Mulhare's commitment to the roll of Michael Knight's boss after the first season.

The car itself was sorted out, but the character still had to be finalised; specifically, it needed a voice. Larson had been impressed by an actor from the 1967 film 'Two for the Road' who, at the time, was playing Dr. Craig in the TV hospital drama, *St. Elsewhere*. Although Daniels' work on *Knight Rider* would be spent sat in a small recording booth all on his own - only ever meeting the cast and crew at Christmas parties - his commitment was as profound as the rest of the people involved. He even suggested his own name not be included in the credits so as to give the car a stronger personality; a magnanimous gesture that certainly had the desired effect.

In anticipation of the fanatical fans' attention to detail, Larson wrote in the somewhat expository character of K.I.T.T.'s maintenance engineer, Bonnie Barstow, played by Patricia McPherson. Regardless of the fact that Bonnie mainly served as a method to retrofit K.I.T.T. with some nebulous device that would become remarkably necessary toward the end of the episode, she proved to be a very popular addition.

There was both an internal and external outcry when she was dropped after the first series. The majority of her fan mail cried out for a romance between Bonnie and Michael (who threw up onscreen sparks every time they had to squeeze past each other in the back of the lorry), and her constant pleading to the producers to begin such a story arc led them to replace her.

In series two, Rebecca Holden appeared as Bonnie's replacement, April Curtis (without any form of introduction), causing an outcry from cast members and fans alike. Although Holden was just as capable as McPherson, the public had grown to love Bonnie and wanted her back. Ultimately, the show's producers caved in to public demand and were forced to rehire McPherson and bring Bonnie back; a situation almost unheard of in the industry.

Several other repeat characters cropped up, though never with the relentless monotony of the smoking man in the *X-Files* or practically everyone in *Alias*. The most popular was, without a doubt, K.I.T.T.'s prototype, K.A.R.R.. The Knight Automated Roving Robot (cringe) was the forerunner to K.I.T.T. - just as indestructible, but without the advanced programming that made its successor a champion of the people. K.A.R.R. was programmed for self-preservation rather than protecting human life, making it animalistic and self-serving. After being defeated in a game of chicken with K.I.T.T., K.A.R.R. sat on the sea bed going quietly insane, only to return in what is often considered the definitive episode in series three called *K.I.T.T. vs. K.A.R.R.*

Another rival to the intrepid automo-

bile was a juggernaut called Goliath, which was driven by a proven ratings booster; the evil twin. Wearing the standard symbol of a nefarious doppelganger - the goatee beard (as established by *Star Trek's* evil Spock) - Hasselhoff played the deranged son of Wilton Knight known as Garth Knight, out to remove the impostor modelled on his face by an unloving father. Both evil twin and eighteen-wheeled behemoth would return in later episodes, each time proving popular despite the obvious cheesiness of their existence.

As *Knight Rider* reached the end of its life, the studio sadly fell into the trap many series of this quality suffer from; the revamp. As actual cars began to emerge with similar attributes to K.I.T.T., *Knight Rider's* levels of technology were increased into fantastical realms, ruining much of the credibility the show had built up. Extra characters were also introduced in attempt to keep up with the increasing amount of shows originally inspired by *Knight Rider*, such as the motorcycle mounted mercenary, streetwise mechanic and driver of the FLAG lorry, Reginald Cornelius III (more commonly referred to as RC3) played by Peter Perros. Despite being quite popular, RCIII marked a sad point in *Knight Rider's* life as an obvious attempt to bolster failing viewing figures, and served to turn the studios back on the founding premise of one man making a difference. Series four was the last.

#### AFTER THE KNIGHT HAS GONE...

It can't be denied that *Knight Rider* inspired a whole generation of film makers and has aged supremely well. It has seen several attempts at rejuvenation (two films and a series), none of which recaptured the magic of the original. There is a roving red light at the end of the tunnel, however, as the Hollywood grapevine is ripe with talk of a new *Knight Rider* revival movie; this time with both David Hasselhoff, Glen Larson and William Daniels on board, who are reportedly being extremely cautious with the valuable *Knight Rider* property to ensure the original tone is preserved. Hold your breath...

A trait that is severely lacking from today's weekly TV dramas is that of independent, self-contained story lines. The longevity of modern programs such as *Lost* and *24* will suffer due to their complex, series-spanning story arcs; prohibiting future viewers from picking an episode at random from their costly DVD collection and still being immersed in the story.

*Knight Rider* came from a time when synchronicity only went as far as retaining one or two of the plot resolving gadgets installed by Bonnie, or K.I.T.T.'s tongue-in-cheek subplots where he systematically torments a jobsworth security guard or dim-witted traffic warden. The benefit of this trait is that even today, viewers can randomly select an episode and sashay seamlessly into the exciting, dangerous world of the *Knight Rider*.

Trans-Am, stunt drivers  
man their chiropractors  
good for them...



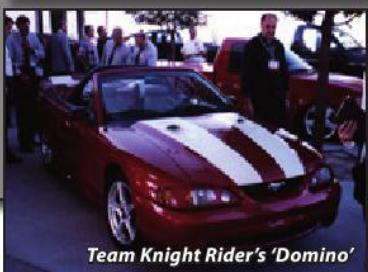
Knight Rider



Knight Rider 2000



Knight Rider 2010



Team Knight Rider's 'Domino'

**DARK KNIGHT OF THE SOUL**

There have been several attempts to capitalise on the Knight Rider theme since the series ended in 1986, beginning with the feature film 'Knight Rider 2000' released in 1991. Michael returns to FLAG to help out Devon and reactivate K.I.T.T.. After Devon is murdered, K.I.T.T. is installed into the Knight Industries 4000 Dodge Stealth (and fortunately not renamed K.I.F.T.) and the pair bring Devon's killers to justice. This was a poorly realised effort that seemed to miss the point of Knight Rider and capture none of the series' essence, only serving to disappoint the eager fans.

In order to completely destroy the life long fan base, 1994's Knight Rider 2010 bore no comparison the series we know and love, with none of the original cast (although Edward Mulhare had sadly died in 1993). It's confusing plot and lack of development saw it lashed to death quickly by critics and fans alike.

In 1997, Universal made another attempt to rejuvenate the franchise with the short lived series, Team Knight Rider. Five different FLAG agents with five different 'intelligent' vehicles suffered badly from under funding, and although it promised to tie in with the original series over time (including one member of TKR being the possible daughter of Michael Long), the program never quite found its feet. With too much going on and an overabundance of stereotypical characters (and Glen Larson's refusal to be involved) it was cancelled after the first season.

We can only hope that the new Knight Rider movie will provide where the others have only disappointed, and if internet hype is to be believed it might do just that.

**TRIVIA****CATCH UP WITH K.I.T.T.**

British fans are in luck as the Cars of the Stars museum in Keswick (Cumbria) actually owns two original K.I.T.T. models; one bought from David Hasselhoff featuring the original dashboard, and a convertible. Also on display is the time-travelling DeLorean, the A-Team's GMC van, a host of Bond vehicles and many other famous motors. Check them out at [www.carsofthestars.com](http://www.carsofthestars.com)

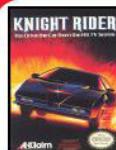
**DERAILED**

As filming of Knight Rider began, one of the first deliveries of 32 Trans-Am's met with an accident en route, causing superficial damage to all the cars. Albeit minor damage, but enough such that the dealer could no longer sell them as new according to US trade regulations. Pontiac graciously donated the entire shipment to Larson. Half were used as stunt fodder for his continuing Fox production, the Fall Guy, while the rest went into the Knight Rider stock.

**WHITE BIRD**

A later episode of series one entitled 'White Bird' saw Hasselhoff's off-screen girlfriend Catherine Hickland cast as the long lost fiancé of Michael Long. She is wrongly accused of solicitation (an aspect of the script to which the Hoff strongly objected) and is unknowingly helped out by her reincarnated love. At an end of season party, the romantic Hoffmeister had a miniature Trans-Am placed on top of a cake with an engagement ring in the boot for Hickland to find. If it had been me, I think I would have married him too, after such a romantic, yet technologically advanced and culturally relevant proposal.





Many failed tries...



The NES version at least had a pretty dash



The CPC had you gunning down choppers



Help, my eyes are bleeding



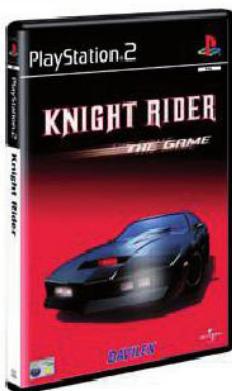
No, burn the C64 disk! It'll save you from...



A rather sparse road that looks like a race track



And more spelling errors than issue one... (O! Ed)



road. The handling of K.I.T.T. is far from epitome of precision maneuvering as seen in the series. One moment you can be gliding around a corner, a split second later and you are spinning uncontrollably. Another big problem is that the game itself can be finished in under 3 hours - if you have the patience of a saint and can tolerate the numerous times you will hit things whether it be your own fault or not.

It does have some redeeming features, however. The music is cheesy 80's electric with a modern tinge and makes the game feel like its heart is in the right place. There are also some small puzzle elements like trying to get from one place to another using the 2-wheeled ski mode or Turbo Boost. But for all these nice little touches, you just feel let down. You have to wonder though - if EA, Konami or whoever had got there first, would there have been a much better game waiting for us to play? I have to say yes; they couldn't do any worse.

## Knight Rider The Game (Playstation 2)

**Knight Rider is one of those titles where you so hope that it's going to be a great game, but then you start playing it and can't help but feel cheated.**

The intro has a nice TV-style presentation, but alas, it all starts to go downhill from there. The graphics are basic, with only K.I.T.T. getting a lick of paint. All other vehicles move like lifeless blocks along the



## Knight Rider 2 (PC & Playstation 2)

The second PS2 outing (and also released on PC this time around) is pretty much as you were, but this time KITT has the added option of guns that can fire lasers and plasma rounds,



not to mention the missile bay at the back. This time around you will need them because you are up against what has to be described as the most erratic difficulty level ever seen in a video game. The main culprits are the really annoying robots who are hell bent on blowing you to bits. Never has trying to shoot something been more infuriating than this, I can assure you.

Another new addition comes in the form of unlockables, including a quiz to test your knowledge on the TV series and some movies of a stunt driver putting KITT through his paces, but you will have reached the end of your tether by the time you have unlocked movie number 3.

Simply put, it's better than the first, but not by much. Shame.



**Kellogg's®**

# SNAP CRACKLE AND POP CULTURE

Over the years, the chirpy band of breakfast boys have rubbed shoulders with the rich and famous, most notably helping launch the Rolling Stones by allowing them to provide a jingle for the 1955 Rice Krispies TV ad

It's not just the elves from Lord of the Rings who are apparently immortal. The three sprightly cereal creepers from the Rice Krispies adverts are the longest running mascots of any breakfast cereal, and although that may not sound like much of an accolade, they have met some stiff competition since their first appearance over 70 years ago and are still to be found snorkelling around the milk on today's breakfast table.

In 1927, W.K. Kellogg was approached by his laboratory in Battle Creek, Michigan, with a new type of 'talking' cereal made from puffed grains of rice, and a year later, Rice Krispies hit the shelves. Despite no formal higher education, W.K. Kellogg proved his business aptitude through the dexterous use of advertising; sending out free samples of his food stuff across America then following it up with massive billboard and magazine commercials. The signature 'snap, crackle and pop' chorus that

greets the fast breaking milk pourer has served as a product advertising slogan ever since.

Initially, the distinctive watchwords were only used onomatopoeically in magazine and other static advertisements, with a peculiar gnome type creature in a baker's hat directing attention to the name of the talkative toasted rice. When struggling children's illustrator, Vernon Grant, heard a radio advert for the cereal, he took the superfluous impish figure and designed a trio of elves around the already popular slogan, naming them Snap, Crackle and Pop.

Kellogg's immediately snapped the idea up (tee-heel) and by the mid 30s, no bowl of Rice Krispies could be found without the three puckish gnomes peering over the edge. Although neither Grant nor Kellogg's will have realised it at the time, this trio of monosyllabic miniature mealtime mascots would prove themselves to be one of the most successful, recognisable promotions ever seen.

Kellogg's was one of the only businesses to see an actual sales increase during the Great Depression when it skilfully played the advertising game once again, switching its image from one of luxury indulgence to affordable sustenance. The starving masses began to look on the cereal as a means of survival; a role that was sustained during WWII when Kellogg's cereals were used to alleviate rationing difficulties and to feed troops abroad. The breakfast manufacturer can honestly hold its head up to this day and say it was part of the solution during these difficult times, and succeeded without the exploitation of a desperate populous.

In 1939, the Krispie pixies joined the early fraternity of animated cartoons in a Kellogg sponsored two-minute short called "Breakfast Pals." The cartoon featured the mischievous characters fighting against rivals Soggy, Mushy, and Toughy for control of a child's breakfast bowl, making them the first ever animated advertising campaign.

The trio were also part of another

less obvious (but distinctly nostalgic) revolution. A recipe that 95% of us attribute to being invented by our own grandmothers was in fact devised by a Kellogg's employee. Rice Krispie 'treats', the popular elfish cereal mixed with melted marshmallow and divided into squares, was first made by Mildred Day in the 1930s as a fund raiser for a local Camp Fire Girls troupe. The recipe was released to the public in 1940 after the Kellogg Home Economics Department refined the cooking procedure, although it would be 1997 before Kellogg's marketed the snacks themselves.

In the '50s, a fourth member was added to the cereal sprites' team, called Pow, though his presence only served to clutter the breakfast bowl rim and he was soon banished from the table never to return. Numerous other attempts to keep the campaign fresh have been attempted over the years, such as turning them from bakers and soldiers into spacemen and superheroes, but each time the redesigned rascals have met with resistance from the rice-loving public.

Over the years, the chirpy band of breakfast boys have rubbed shoulders with the rich and famous, most notably helping launch the Rolling Stones by allowing them to provide a jingle for the 1955 Rice Krispies TV ad, which is said to have been written by Brian Jones as the band's first original composition. Various voice over talents have also made themselves known vicariously through the cheerful chatter of the krazy Krispie krew, such as Chris Evans, Keith Chegwin and voice-over industry legend Len Dresslar (the "Ho, ho, ho!" voice of the Jolly Green Giant).

As prevalent today as they ever were, Snap, Crackle and Pop have become part of Western heritage, achieving an almost unique position in advertising history; as recognisable as our own families and completely without the need for any kind of update to keep us interested. We know Crackle, Pop and Snap intimately, and it seems that no one, not even W.K. Kellogg himself, is entitled to change them.



YOU WANT MORE?

## NUTRITIONAL INFO

### THE VOICE OF KRISPIES

It seems this conversational cuisine is versed in a multi-cultural dietary dialect, able to make itself understood across the world. In France, the bowl resonates with the sound of "Cric! Crac! Croc!", while a Finnish diner hears "Riks! Raks! Poks!" coming from the milk. In Sweden, the tasty trio whisper "Piff! Paff! Puff!", the Spanish are regaled with a chorus of "Pim! Pum! Pam!" and in Germany, the culinary critters croon "Knisper! Knasper! Knasper!" from their breakfast table theatre.

### WHAT IS YOUR BOWL REALLY SAYING?

In order to shatter your childhood illusions properly, we must look at the manufacturing process of the toasted rice delight. Rice Krispies are made from a sugary rice mixture which is reformed into the shape of rice grains and oven toasted. As they rise, the mixture bubbles and creates air pockets inside the grain. When applied to milk, the starch in the thicker areas of the grain wall absorbs milk faster than the 'bubble' enclosure, trigger a rapid expansion which causes the structure of the grain to collapse at high speed. The air is quickly expelled from the bubbles and a tiny splash is heard as it hits the milk, creating the distinctive song of the Krispies.

There is another theory that each grain is actually a trans-dimensional prison for evil ethereal elves, who use the destructive properties of milk to detonate the walls of their sugary cells, then run off at the speed of sound, laughing at their reacquired freedom, creating the snap, crackle and pop noises we know so well. This theory, however, is totally bogus.

### ALLERGY INFORMATION

This article was produced near a factory by Spanner Spencer, who is nuts and therefore we can not guarantee this article is free from contamination.

450g NET

Kellogg's and Rice Krispies are registered trademarks of Kellogg Company, who incidentally will be celebrating 100 years of cereal-based history this year. That's 36,525 breakfasts and a whole lot of Rice Krispies. Happy Birthday.



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